SEQUENCE LISTING

<110> Simard, John J. L.
      Diamond, David C.
      Liu, Liping
      Liu, Zheng

<120> EPITOPE SEQUENCES

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<150> 60/409123
<151> 2002-09-06

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Lys Glu Cys Cys Pro Pro Trp Ser Gly Asp Arg Ser Pro Cys Gly Gln
            35   40   45
Leu Ser Gly Arg Gly Ser Cys Gln Asn Ile Leu Leu Ser Asn Ala Pro
        50   55   60
Leu Gly Pro Gln Phe Pro Phe Thr Gly Val Asp Asp Arg Glu Ser Trp
65   70   75   80
Pro Ser Val Phe Tyr Asn Arg Thr Cys Gln Cys Ser Gly Asn Phe Met
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Gly Phe Asn Cys Gly Asn Cys Lys Phe Gly Phe Trp Gly Pro Asn Cys
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Thr Glu Arg Arg Leu Leu Val Arg Arg Asn Ile Phe Asp Leu Ser Ala
            115   120   125
Pro Glu Lys Asp Lys Phe Phe Ala Tyr Leu Thr Leu Ala Lys His Thr
        130   135   140
Ile Ser Ser Asp Tyr Val Ile Pro Ile Gly Thr Tyr Gly Gln Met Lys
145   150   155   160
Asn Gly Ser Thr Pro Met Phe Asn Asp Ile Asn Ile Tyr Asp Leu Phe

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Val Trp Met His Tyr Tyr Val Ser Met Asp Ala Leu Leu Gly Gly Ser
            180                    185                    190
Glu Ile Trp Arg Asp Ile Asp Phe Ala His Glu Ala Pro Ala Phe Leu
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Pro Trp His Arg Leu Phe Leu Leu Arg Trp Glu Gln Glu Ile Gln Lys
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Leu Thr Gly Asp Glu Asn Phe Thr Ile Pro Tyr Trp Asp Trp Arg Asp
225                    230                    235                    240
Ala Glu Lys Cys Asp Ile Cys Thr Asp Glu Tyr Met Gly Gly Gln His
                245                    250                    255
Pro Thr Asn Pro Asn Leu Leu Ser Pro Ala Ser Phe Phe Ser Ser Trp
            260                    265                    270
Gln Ile Val Cys Ser Arg Leu Glu Glu Tyr Asn Ser His Gln Ser Leu
            275                    280                    285
Cys Asn Gly Thr Pro Glu Gly Pro Leu Arg Arg Asn Pro Gly Asn His
    290                    295                    300
Asp Lys Ser Arg Thr Pro Arg Leu Pro Ser Ser Ala Asp Val Glu Phe
305                    310                    315                    320
Cys Leu Ser Leu Thr Gln Tyr Glu Ser Gly Ser Met Asp Lys Ala Ala
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Asn Phe Ser Phe Arg Asn Thr Leu Glu Gly Phe Ala Ser Pro Leu Thr
                340                    345                    350
Gly Ile Ala Asp Ala Ser Gln Ser Ser Met His Asn Ala Leu His Ile
            355                    360                    365
Tyr Met Asn Gly Thr Met Ser Gln Val Gln Gly Ser Ala Asn Asp Pro
    370                    375                    380
Ile Phe Leu Leu His His Ala Phe Val Asp Ser Ile Phe Glu Gln Trp
385                    390                    395                    400
Leu Arg Arg His Arg Pro Leu Gln Glu Val Tyr Pro Glu Ala Asn Ala
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Pro Ile Gly His Asn Arg Glu Ser Tyr Met Val Pro Phe Ile Pro Leu
            420                    425                    430
Tyr Arg Asn Gly Asp Phe Phe Ile Ser Ser Lys Asp Leu Gly Tyr Asp
        435                    440                    445
Tyr Ser Tyr Leu Gln Asp Ser Asp Pro Asp Ser Phe Gln Asp Tyr Ile
    450                    455                    460
Lys Ser Tyr Leu Glu Gln Ala Ser Arg Ile Trp Ser Trp Leu Leu Gly
465                    470                    475                    480
Ala Ala Met Val Gly Ala Val Leu Thr Ala Leu Leu Ala Gly Leu Val
                485                    490                    495
Ser Leu Leu Cys Arg His Lys Arg Lys Gln Leu Pro Glu Glu Lys Gln
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Ser Lys Glu Glu Trp Glu Lys Met Lys Ala Ser Glu Lys Ile Phe Tyr
        35   40   45
Val Tyr Met Lys Arg Lys Tyr Glu Ala Met Thr Lys Leu Gly Phe Lys
    50   55   60
Ala Thr Leu Pro Pro Phe Met Cys Asn Lys Arg Ala Glu Asp Phe Gln
65   70   75   80
Gly Asn Asp Leu Asp Asn Asp Pro Asn Arg Gly Asn Gln Val Glu Arg
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Pro Gln Met Thr Phe Gly Arg Leu Gln Gly Ile Ser Pro Lys Ile Met
              100   105   110
Pro Lys Lys Pro Ala Glu Glu Gly Asn Asp Ser Glu Glu Val Pro Glu
        115   120   125
Ala Ser Gly Pro Gln Asn Asp Gly Lys Glu Leu Cys Pro Pro Gly Lys
    130   135   140
Pro Thr Thr Ser Glu Lys Ile His Glu Arg Ser Gly Pro Lys Arg Gly
145   150   155   160
Glu His Ala Trp Thr His Arg Leu Arg Glu Arg Lys Gln Leu Val Ile
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Tyr Glu Glu Ile Ser Asp Pro Glu Glu Asp Asp Glu
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        35   40   45
Ala Thr Asn Ile Thr Pro Lys His Asn Met Lys Ala Phe Leu Asp Glu
    50   55   60
Leu Lys Ala Glu Asn Ile Lys Lys Phe Leu Tyr Asn Phe Thr Gln Ile
65   70   75   80
Pro His Leu Ala Gly Thr Glu Gln Asn Phe Gln Leu Ala Lys Gln Ile
              85   90   95
Gln Ser Gln Trp Lys Glu Phe Gly Leu Asp Ser Val Glu Leu Ala His
              100   105   110
Tyr Asp Val Leu Leu Ser Tyr Pro Asn Lys Thr His Pro Asn Tyr Ile
              115   120   125
Ser Ile Ile Asn Glu Asp Gly Asn Glu Ile Phe Asn Thr Ser Leu Phe
    130   135   140
Glu Pro Pro Pro Gly Tyr Glu Asn Val Ser Asp Ile Val Pro Pro
145   150   155   160
Phe Ser Ala Phe Ser Pro Gln Gly Met Pro Glu Gly Asp Leu Val Tyr
              165   170   175
Val Asn Tyr Ala Arg Thr Glu Asp Phe Phe Lys Leu Glu Arg Asp Met
              180   185   190
Lys Ile Asn Cys Ser Gly Lys Ile Val Ile Ala Arg Tyr Gly Lys Val
        195   200   205
Phe Arg Gly Asn Lys Val Lys Asn Ala Gln Leu Ala Gly Ala Lys Gly

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Val Ile Leu Tyr Ser Asp Pro Ala Asp Tyr Phe Ala Pro Gly Val Lys
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Ser Tyr Pro Asp Gly Trp Asn Leu Pro Gly Gly Gly Val Gln Arg Gly
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Asn Ile Leu Asn Leu Asn Gly Ala Gly Asp Pro Leu Thr Pro Gly Tyr
                    260                        265                        270
Pro Ala Asn Glu Tyr Ala Tyr Arg Arg Gly Ile Ala Glu Ala Val Gly
               275                        280                        285
Leu Pro Ser Ile Pro Val His Pro Ile Gly Tyr Tyr Asp Ala Gln Lys
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Leu Leu Glu Lys Met Gly Gly Ser Ala Pro Pro Asp Ser Ser Trp Arg
305                        310                        315                        320
Gly Ser Leu Lys Val Pro Tyr Asn Val Gly Pro Gly Phe Thr Gly Asn
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Phe Ser Thr Gln Lys Val Lys Met His Ile His Ser Thr Asn Glu Val
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Thr Arg Ile Tyr Asn Val Ile Gly Thr Leu Arg Gly Ala Val Glu Pro
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Asp Arg Tyr Val Ile Leu Gly Gly His Arg Asp Ser Trp Val Phe Gly
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Gly Ile Asp Pro Gln Ser Gly Ala Ala Val Val His Glu Ile Val Arg
385                        390                        395                        400
Ser Phe Gly Thr Leu Lys Lys Glu Gly Trp Arg Pro Arg Arg Thr Ile
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Leu Phe Ala Ser Trp Asp Ala Glu Glu Phe Gly Leu Leu Gly Ser Thr
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Glu Trp Ala Glu Glu Asn Ser Arg Leu Leu Gln Glu Arg Gly Val Ala
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Tyr Ile Asn Ala Asp Ser Ser Ile Glu Gly Asn Tyr Thr Leu Arg Val
          450                        455                        460
Asp Cys Thr Pro Leu Met Tyr Ser Leu Val His Asn Leu Thr Lys Glu
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                    485                        490                        495
Trp Thr Lys Lys Ser Pro Ser Pro Glu Phe Ser Gly Met Pro Arg Ile
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Ser Lys Leu Gly Ser Gly Asn Asp Phe Glu Val Phe Phe Gln Arg Leu
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Gly Ile Ala Ser Gly Arg Ala Arg Tyr Thr Lys Asn Trp Glu Thr Asn
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Lys Phe Ser Gly Tyr Pro Leu Tyr His Ser Val Tyr Glu Thr Tyr Glu
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Leu Val Glu Lys Phe Tyr Asp Pro Met Phe Lys Tyr His Leu Thr Val
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Leu Pro Phe Asp Cys Arg Asp Tyr Ala Val Val Leu Arg Lys Tyr Ala
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Asp Lys Ile Tyr Ser Ile Ser Met Lys His Pro Gln Glu Met Lys Thr
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Tyr Ser Val Ser Phe Asp Ser Leu Phe Ser Ala Val Lys Asn Phe Thr
625                        630                        635                        640
Glu Ile Ala Ser Lys Phe Ser Glu Arg Leu Gln Asp Phe Asp Lys Ser
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Asn Pro Ile Val Leu Arg Met Met Asn Asp Gln Leu Met Phe Leu Glu
               660                        665                        670
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4

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Arg Ala Phe Ile Asp Pro Leu Gly Leu Pro Asp Arg Pro Phe Tyr Arg
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His Val Ile Tyr Ala Pro Ser Ser His Asn Lys Tyr Ala Gly Glu Ser
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Phe Pro Gly Ile Tyr Asp Ala Leu Phe Asp Ile Glu Ser Lys Val Asp
705             710             715             720
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 1               5


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            20              25              30
Phe Lys Ala Thr Leu Pro
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<213> Homo sapiens

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Met Lys Ala Ser Glu Lys Ile Phe Tyr
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Lys Met Lys Ala Ser Glu Lys Ile Phe Tyr
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Lys Ala Ser Glu Lys Ile Phe Tyr Val
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Met Lys Ala Ser Glu Lys Ile Phe Tyr Val
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11

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<400> 36
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<210> 37
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<212> PRT
<213> Homo sapiens

<400> 37
Glu Gly Asp Leu Val Tyr Val Asn Tyr
 1                    5



<210> 38
<211> 10
<212> PRT
<213> Homo sapiens

<400> 38
Pro Glu Gly Asp Leu Val Tyr Val Asn Tyr
 1                    5                   10



<210> 39
<211> 10
<212> PRT
<213> Homo sapiens

<400> 39
Leu Val Tyr Val Asn Tyr Ala Arg Thr Glu
 1                    5                   10



<210> 40
<211> 9
<212> PRT
<213> Homo sapiens
```

<400> 40
Val Asn Tyr Ala Arg Thr Glu Asp Phe
 1   5

<210> 41
<211> 10
<212> PRT
<213> Homo sapiens

<400> 41
Tyr Val Asn Tyr Ala Arg Thr Glu Asp Phe
 1   5   10

<210> 42
<211> 9
<212> PRT
<213> Homo sapiens

<400> 42
Asn Tyr Ala Arg Thr Glu Asp Phe Phe
 1   5

<210> 43
<211> 8
<212> PRT
<213> Homo sapiens

<400> 43
Tyr Ala Arg Thr Glu Asp Phe Phe
 1   5

<210> 44
<211> 9
<212> PRT
<213> Homo sapiens

<400> 44
Arg Thr Glu Asp Phe Phe Lys Leu Glu
 1   5

<210> 45
<211> 30
<212> PRT
<213> Homo sapiens

<400> 45
Arg Gly Ile Ala Glu Ala Val Gly Leu Pro Ser Ile Pro Val His Pro
 1   5   10   15
Ile Gly Tyr Tyr Asp Ala Gln Lys Leu Leu Glu Lys Met Gly
            20   25   30

<210> 46
<211> 25
<212> PRT
<213> Homo sapiens

<400> 46
Ile Ala Glu Ala Val Gly Leu Pro Ser Ile Pro Val His Pro Ile Gly
1   5   10   15
Tyr Tyr Asp Ala Gln Lys Leu Leu Glu
            20   25

<210> 47
<211> 9
<212> PRT
<213> Homo sapiens

<400> 47
Leu Pro Ser Ile Pro Val His Pro Ile
1   5

<210> 48
<211> 10
<212> PRT
<213> Homo sapiens

<400> 48
Gly Leu Pro Ser Ile Pro Val His Pro Ile
1   5   10

<210> 49
<211> 9
<212> PRT
<213> Homo sapiens

<400> 49
Ile Gly Tyr Tyr Asp Ala Gln Lys Leu
1   5

<210> 50
<211> 10
<212> PRT
<213> Homo sapiens

<400> 50
Pro Ile Gly Tyr Tyr Asp Ala Gln Lys Leu
1   5   10

<210> 51
<211> 9
<212> PRT
<213> Homo sapiens

<400> 51
Ser Ile Pro Val His Pro Ile Gly Tyr
 1   5

<210> 52
<211> 10
<212> PRT
<213> Homo sapiens

<400> 52
Pro Ser Ile Pro Val His Pro Ile Gly Tyr
 1   5   10

<210> 53
<211> 8
<212> PRT
<213> Homo sapiens

<400> 53
Ile Pro Val His Pro Ile Gly Tyr
 1   5

<210> 54
<211> 9
<212> PRT
<213> Homo sapiens

<400> 54
Tyr Tyr Asp Ala Gln Lys Leu Leu Glu
 1   5

<210> 55
<211> 27
<212> PRT
<213> Homo sapiens

<400> 55
Ser Ser Ile Glu Gly Asn Tyr Thr Leu Arg Val Asp Cys Thr Pro Leu
 1   5   10   15
Met Tyr Ser Leu Val His Leu Thr Lys Glu Leu
            20   25

<210> 56
<211> 9
<212> PRT
<213> Homo sapiens

<400> 56
Ile Glu Gly Asn Tyr Thr Leu Arg Val
 1   5

15

<210> 57
<211> 10
<212> PRT
<213> Homo sapiens

<400> 57
Ser Ile Glu Gly Asn Tyr Thr Leu Arg Val
1   5   10

<210> 58
<211> 8
<212> PRT
<213> Homo sapiens

<400> 58
Glu Gly Asn Tyr Thr Leu Arg Val
1   5

<210> 59
<211> 9
<212> PRT
<213> Homo sapiens

<400> 59
Thr Leu Arg Val Asp Cys Thr Pro Leu
1   5

<210> 60
<211> 10
<212> PRT
<213> Homo sapiens

<400> 60
Tyr Thr Leu Arg Val Asp Cys Thr Pro Leu
1   5   10

<210> 61
<211> 9
<212> PRT
<213> Homo sapiens

<400> 61
Leu Arg Val Asp Cys Thr Pro Leu Met
1   5

<210> 62
<211> 9
<212> PRT
<213> Homo sapiens

<400> 62

```
Arg Val Asp Cys Thr Pro Leu Met Tyr
 1               5
```

```
<210> 63
<211> 10
<212> PRT
<213> Homo sapiens
```

```
<400> 63
Leu Arg Val Asp Cys Thr Pro Leu Met Tyr
 1               5                   10
```

```
<210> 64
<211> 35
<212> PRT
<213> Homo sapiens
```

```
<400> 64
Phe Asp Lys Ser Asn Pro Ile Val Leu Arg Met Met Asn Asp Gln Leu
 1               5                   10                  15
Met Phe Leu Glu Arg Ala Phe Ile Asp Pro Leu Gly Leu Pro Asp Arg
            20                  25                  30
Pro Phe Tyr
        35
```

```
<210> 65
<211> 22
<212> PRT
<213> Homo sapiens
```

```
<400> 65
Val Leu Arg Met Met Asn Asp Gln Leu Met Phe Leu Glu Arg Ala Phe
 1               5                   10                  15
Ile Asp Pro Leu Gly Leu
            20
```

```
<210> 66
<211> 9
<212> PRT
<213> Homo sapiens
```

```
<400> 66
Met Met Asn Asp Gln Leu Met Phe Leu
 1               5
```

```
<210> 67
<211> 10
<212> PRT
<213> Homo sapiens
```

```
<400> 67
Arg Met Met Asn Asp Gln Leu Met Phe Leu
```

<210> 68
<211> 9
<212> PRT
<213> Homo sapiens

<400> 68
Arg Met Met Asn Asp Gln Leu Met Phe
 1   5

<210> 69
<211> 17
<212> PRT
<213> Homo sapiens

<400> 69
Met Leu Leu Ala Val Leu Tyr Cys Leu Leu Trp Ser Phe Gln Thr Ser
 1   5   10   15
Ala

<210> 70
<211> 661
<212> PRT
<213> Homo sapiens

<400> 70
Met Asp Leu Val Leu Lys Arg Cys Leu Leu His Leu Ala Val Ile Gly
 1   5   10   15
Ala Leu Leu Ala Val Gly Ala Thr Lys Val Pro Arg Asn Gln Asp Trp
            20   25   30
Leu Gly Val Ser Arg Gln Leu Arg Thr Lys Ala Trp Asn Arg Gln Leu
            35   40   45
Tyr Pro Glu Trp Thr Glu Ala Gln Arg Leu Asp Cys Trp Arg Gly Gly
    50   55   60
Gln Val Ser Leu Lys Val Ser Asn Asp Gly Pro Thr Leu Ile Gly Ala
65   70   75   80
Asn Ala Ser Phe Ser Ile Ala Leu Asn Phe Pro Gly Ser Gln Lys Val
            85   90   95
Leu Pro Asp Gly Gln Val Ile Trp Val Asn Asn Thr Ile Ile Asn Gly
            100   105   110
Ser Gln Val Trp Gly Gly Gln Pro Val Tyr Pro Gln Glu Thr Asp Asp
            115   120   125
Ala Cys Ile Phe Pro Asp Gly Gly Pro Cys Pro Ser Gly Ser Trp Ser
    130   135   140
Gln Lys Arg Ser Phe Val Tyr Val Trp Lys Thr Trp Gly Gln Tyr Trp
145   150   155   160
Gln Val Leu Gly Gly Pro Val Ser Gly Leu Ser Ile Gly Thr Gly Arg
            165   170   175
Ala Met Leu Gly Thr His Thr Met Glu Val Thr Val Tyr His Arg Arg
            180   185   190
Gly Ser Arg Ser Tyr Val Pro Leu Ala His Ser Ser Ser Ala Phe Thr
    195   200   205

```
Ile Thr Asp Gln Val Pro Phe Ser Val Ser Val Ser Gln Leu Arg Ala
    210                 215                 220
Leu Asp Gly Gly Asn Lys His Phe Leu Arg Asn Gln Pro Leu Thr Phe
225                 230                 235                 240
Ala Leu Gln Leu His Asp Pro Ser Gly Tyr Leu Ala Glu Ala Asp Leu
                245                 250                 255
Ser Tyr Thr Trp Asp Phe Gly Asp Ser Ser Gly Thr Leu Ile Ser Arg
                260                 265                 270
Ala Pro Val Val Thr His Thr Tyr Leu Glu Pro Gly Pro Val Thr Ala
                275                 280                 285
Gln Val Val Leu Gln Ala Ala Ile Pro Leu Thr Ser Cys Gly Ser Ser
    290                 295                 300
Pro Val Pro Gly Thr Thr Asp Gly His Arg Pro Thr Ala Glu Ala Pro
305                 310                 315                 320
Asn Thr Thr Ala Gly Gln Val Pro Thr Thr Glu Val Val Gly Thr Thr
                325                 330                 335
Pro Gly Gln Ala Pro Thr Ala Glu Pro Ser Gly Thr Thr Ser Val Gln
                340                 345                 350
Val Pro Thr Thr Glu Val Ile Ser Thr Ala Pro Val Gln Met Pro Thr
                355                 360                 365
Ala Glu Ser Thr Gly Met Thr Pro Glu Lys Val Pro Val Ser Glu Val
    370                 375                 380
Met Gly Thr Thr Leu Ala Glu Met Ser Thr Pro Glu Ala Thr Gly Met
385                 390                 395                 400
Thr Pro Ala Glu Val Ser Ile Val Val Leu Ser Gly Thr Thr Ala Ala
                405                 410                 415
Gln Val Thr Thr Thr Glu Trp Val Glu Thr Thr Ala Arg Glu Leu Pro
                420                 425                 430
Ile Pro Glu Pro Glu Gly Pro Asp Ala Ser Ser Ile Met Ser Thr Glu
                435                 440                 445
Ser Ile Thr Gly Ser Leu Gly Pro Leu Leu Asp Gly Thr Ala Thr Leu
    450                 455                 460
Arg Leu Val Lys Arg Gln Val Pro Leu Asp Cys Val Leu Tyr Arg Tyr
465                 470                 475                 480
Gly Ser Phe Ser Val Thr Leu Asp Ile Val Gln Gly Ile Glu Ser Ala
                485                 490                 495
Glu Ile Leu Gln Ala Val Pro Ser Gly Glu Gly Asp Ala Phe Glu Leu
                500                 505                 510
Thr Val Ser Cys Gln Gly Gly Leu Pro Lys Glu Ala Cys Met Glu Ile
                515                 520                 525
Ser Ser Pro Gly Cys Gln Pro Pro Ala Gln Arg Leu Cys Gln Pro Val
    530                 535                 540
Leu Pro Ser Pro Ala Cys Gln Leu Val Leu His Gln Ile Leu Lys Gly
545                 550                 555                 560
Gly Ser Gly Thr Tyr Cys Leu Asn Val Ser Leu Ala Asp Thr Asn Ser
                565                 570                 575
Leu Ala Val Val Ser Thr Gln Leu Ile Met Pro Gly Gln Glu Ala Gly
                580                 585                 590
Leu Gly Gln Val Pro Leu Ile Val Gly Ile Leu Leu Val Leu Met Ala
    595                 600                 605
Val Val Leu Ala Ser Leu Ile Tyr Arg Arg Arg Leu Met Lys Gln Asp
    610                 615                 620
Phe Ser Val Pro Gln Leu Pro His Ser Ser Ser His Trp Leu Arg Leu
625                 630                 635                 640
Pro Arg Ile Phe Cys Ser Cys Pro Ile Gly Glu Asn Ser Pro Leu Leu
                645                 650                 655
Ser Gly Gln Gln Val
```

<210> 71
<211> 309
<212> PRT
<213> Homo sapiens

<400> 71
```
Met Ser Leu Glu Gln Arg Ser Leu His Cys Lys Pro Glu Glu Ala Leu
 1               5                  10                  15
Glu Ala Gln Gln Glu Ala Leu Gly Leu Val Cys Val Gln Ala Ala Thr
            20                  25                  30
Ser Ser Ser Ser Pro Leu Val Leu Gly Thr Leu Glu Glu Val Pro Thr
        35                  40                  45
Ala Gly Ser Thr Asp Pro Pro Gln Ser Pro Gln Gly Ala Ser Ala Phe
        50                  55                  60
Pro Thr Thr Ile Asn Phe Thr Arg Gln Arg Gln Pro Ser Glu Gly Ser
65                  70                  75                  80
Ser Ser Arg Glu Glu Glu Gly Pro Ser Thr Ser Cys Ile Leu Glu Ser
            85                  90                  95
Leu Phe Arg Ala Val Ile Thr Lys Lys Val Ala Asp Leu Val Gly Phe
            100                 105                 110
Leu Leu Leu Lys Tyr Arg Ala Arg Glu Pro Val Thr Lys Ala Glu Met
            115                 120                 125
Leu Glu Ser Val Ile Lys Asn Tyr Lys His Cys Phe Pro Glu Ile Phe
        130                 135                 140
Gly Lys Ala Ser Glu Ser Leu Gln Leu Val Phe Gly Ile Asp Val Lys
145                 150                 155                 160
Glu Ala Asp Pro Thr Gly His Ser Tyr Val Leu Val Thr Cys Leu Gly
            165                 170                 175
Leu Ser Tyr Asp Gly Leu Leu Gly Asp Asn Gln Ile Met Pro Lys Thr
            180                 185                 190
Gly Phe Leu Ile Ile Val Leu Val Met Ile Ala Met Glu Gly Gly His
            195                 200                 205
Ala Pro Glu Glu Glu Ile Trp Glu Glu Leu Ser Val Met Glu Val Tyr
            210                 215                 220
Asp Gly Arg Glu His Ser Ala Tyr Gly Glu Pro Arg Lys Leu Leu Thr
225                 230                 235                 240
Gln Asp Leu Val Gln Glu Lys Tyr Leu Glu Tyr Arg Gln Val Pro Asp
            245                 250                 255
Ser Asp Pro Ala Arg Tyr Glu Phe Leu Trp Gly Pro Arg Ala Leu Ala
            260                 265                 270
Glu Thr Ser Tyr Val Lys Val Leu Glu Tyr Val Ile Lys Val Ser Ala
            275                 280                 285
Arg Val Arg Phe Phe Phe Pro Ser Leu Arg Glu Ala Ala Leu Arg Glu
            290                 295                 300
Glu Glu Glu Gly Val
305
```

<210> 72
<211> 314
<212> PRT
<213> Homo sapiens

<400> 72

```
Met Pro Leu Glu Gln Arg Ser Gln His Cys Lys Pro Glu Glu Gly Leu
  1               5                  10                  15
Glu Ala Arg Gly Glu Ala Leu Gly Leu Val Gly Ala Gln Ala Pro Ala
              20                  25                  30
Thr Glu Glu Gln Gln Thr Ala Ser Ser Ser Ser Thr Leu Val Glu Val
      35                  40                  45
Thr Leu Gly Glu Val Pro Ala Ala Asp Ser Pro Ser Pro Pro His Ser
      50                  55                  60
Pro Gln Gly Ala Ser Ser Phe Ser Thr Thr Ile Asn Tyr Thr Leu Trp
65                  70                  75                  80
Arg Gln Ser Asp Glu Gly Ser Ser Asn Gln Glu Glu Glu Gly Pro Arg
              85                  90                  95
Met Phe Pro Asp Leu Glu Ser Glu Phe Gln Ala Ala Ile Ser Arg Lys
             100                 105                 110
Met Val Glu Leu Val His Phe Leu Leu Leu Lys Tyr Arg Ala Arg Glu
             115                 120                 125
Pro Val Thr Lys Ala Glu Met Leu Glu Ser Val Leu Arg Asn Cys Gln
             130                 135                 140
Asp Phe Phe Pro Val Ile Phe Ser Lys Ala Ser Glu Tyr Leu Gln Leu
145                 150                 155                 160
Val Phe Gly Ile Glu Val Val Glu Val Val Pro Ile Ser His Leu Tyr
              165                 170                 175
Ile Leu Val Thr Cys Leu Gly Leu Ser Tyr Asp Gly Leu Leu Gly Asp
              180                 185                 190
Asn Gln Val Met Pro Lys Thr Gly Leu Leu Ile Ile Val Leu Ala Ile
             195                 200                 205
Ile Ala Ile Glu Gly Asp Cys Ala Pro Glu Glu Lys Ile Trp Glu Glu
             210                 215                 220
Leu Ser Met Leu Glu Val Phe Glu Gly Arg Glu Asp Ser Val Phe Ala
225                 230                 235                 240
His Pro Arg Lys Leu Leu Met Gln Asp Leu Val Gln Glu Asn Tyr Leu
             245                 250                 255
Glu Tyr Arg Gln Val Pro Gly Ser Asp Pro Ala Cys Tyr Glu Phe Leu
             260                 265                 270
Trp Gly Pro Arg Ala Leu Ile Glu Thr Ser Tyr Val Lys Val Leu His
             275                 280                 285
His Thr Leu Lys Ile Gly Gly Glu Pro His Ile Ser Tyr Pro Pro Leu
      290                 295                 300
His Glu Arg Ala Leu Arg Glu Gly Glu Glu
305                 310
```

```
<210> 73
<211> 314
<212> PRT
<213> Homo sapiens

<400> 73
```
```
Met Pro Leu Glu Gln Arg Ser Gln His Cys Lys Pro Glu Glu Gly Leu
  1               5                  10                  15
Glu Ala Arg Gly Glu Ala Leu Gly Leu Val Gly Ala Gln Ala Pro Ala
              20                  25                  30
Thr Glu Glu Gln Glu Ala Ala Ser Ser Ser Ser Thr Leu Val Glu Val
      35                  40                  45
Thr Leu Gly Glu Val Pro Ala Ala Glu Ser Pro Asp Pro Pro Gln Ser
      50                  55                  60
Pro Gln Gly Ala Ser Ser Leu Pro Thr Thr Met Asn Tyr Pro Leu Trp
```

```
      65                    70                    75                    80
Ser Gln Ser Tyr Glu Asp Ser Ser Asn Gln Glu Glu Glu Gly Pro Ser
                    85                    90                    95
Thr Phe Pro Asp Leu Glu Ser Glu Phe Gln Ala Ala Leu Ser Arg Lys
                100                   105                   110
Val Ala Glu Leu Val His Phe Leu Leu Leu Lys Tyr Arg Ala Arg Glu
            115                   120                   125
Pro Val Thr Lys Ala Glu Met Leu Gly Ser Val Val Gly Asn Trp Gln
            130                   135                   140
Tyr Phe Phe Pro Val Ile Phe Ser Lys Ala Ser Ser Ser Leu Gln Leu
145                   150                   155                   160
Val Phe Gly Ile Glu Leu Met Glu Val Asp Pro Ile Gly His Leu Tyr
                165                   170                   175
Ile Phe Ala Thr Cys Leu Gly Leu Ser Tyr Asp Gly Leu Leu Gly Asp
            180                   185                   190
Asn Gln Ile Met Pro Lys Ala Gly Leu Leu Ile Ile Val Leu Ala Ile
            195                   200                   205
Ile Ala Arg Glu Gly Asp Cys Ala Pro Glu Glu Lys Ile Trp Glu Glu
        210                   215                   220
Leu Ser Val Leu Glu Val Phe Glu Gly Arg Glu Asp Ser Ile Leu Gly
225                   230                   235                   240
Asp Pro Lys Lys Leu Leu Thr Gln His Phe Val Gln Glu Asn Tyr Leu
                245                   250                   255
Glu Tyr Arg Gln Val Pro Gly Ser Asp Pro Ala Cys Tyr Glu Phe Leu
                260                   265                   270
Trp Gly Pro Arg Ala Leu Val Glu Thr Ser Tyr Val Lys Val Leu His
                275                   280                   285
His Met Val Lys Ile Ser Gly Gly Pro His Ile Ser Tyr Pro Pro Leu
            290                   295                   300
His Glu Trp Val Leu Arg Glu Gly Glu Glu
305                   310


<210> 74
<211> 180
<212> PRT
<213> Homo sapiens

<400> 74
Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp
  1               5                    10                    15
Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly
            20                    25                    30
Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
        35                    40                    45
Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala Pro Arg Gly Pro
    50                    55                    60
His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys Cys Arg Cys Gly Ala
65                    70                    75                    80
Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe Tyr Leu Ala Met Pro Phe
                85                    90                    95
Ala Thr Pro Met Glu Ala Glu Leu Ala Arg Arg Ser Leu Ala Gln Asp
            100                   105                   110
Ala Pro Pro Leu Pro Val Pro Gly Val Leu Leu Lys Glu Phe Thr Val
            115                   120                   125
Ser Gly Asn Ile Leu Thr Ile Arg Leu Thr Ala Ala Asp His Arg Gln
        130                   135                   140
```

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Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met
145   150   155   160
Trp Ile Thr Gln Cys Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser
                165   170   175
Gly Gln Arg Arg
            180

<210> 75
<211> 180
<212> PRT
<213> Homo sapiens

<400> 75
Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp
 1   5   10   15
Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly
            20   25   30
Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
        35   40   45
Gly Ala Ala Arg Ala Ser Gly Pro Arg Gly Gly Ala Pro Arg Gly Pro
    50   55   60
His Gly Gly Ala Ala Ser Ala Gln Asp Gly Arg Cys Pro Cys Gly Ala
65   70   75   80
Arg Arg Pro Asp Ser Arg Leu Leu Glu Leu His Ile Thr Met Pro Phe
                85   90   95
Ser Ser Pro Met Glu Ala Glu Leu Val Arg Arg Ile Leu Ser Arg Asp
                100   105   110
Ala Ala Pro Leu Pro Arg Pro Gly Ala Val Leu Lys Asp Phe Thr Val
            115   120   125
Ser Gly Asn Leu Leu Phe Ile Arg Leu Thr Ala Ala Asp His Arg Gln
    130   135   140
Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met
145   150   155   160
Trp Ile Thr Gln Cys Phe Leu Pro Val Phe Leu Ala Gln Ala Pro Ser
                165   170   175
Gly Gln Arg Arg
            180

<210> 76
<211> 210
<212> PRT
<213> Homo sapiens

<400> 76
Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp
 1   5   10   15
Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly
            20   25   30
Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
        35   40   45
Gly Ala Ala Arg Ala Ser Gly Pro Arg Gly Gly Ala Pro Arg Gly Pro
    50   55   60
His Gly Gly Ala Ala Ser Ala Gln Asp Gly Arg Cys Pro Cys Gly Ala
65   70   75   80
Arg Arg Pro Asp Ser Arg Leu Leu Glu Leu His Ile Thr Met Pro Phe

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```
                    85                    90                    95
Ser Ser Pro Met Glu Ala Glu Leu Val Arg Arg Ile Leu Ser Arg Asp
            100                   105                   110
Ala Ala Pro Leu Pro Arg Pro Gly Ala Val Leu Lys Asp Phe Thr Val
            115                   120                   125
Ser Gly Asn Leu Leu Phe Met Ser Val Trp Asp Gln Asp Arg Glu Gly
            130                   135                   140
Ala Gly Arg Met Arg Val Val Gly Trp Gly Leu Gly Ser Ala Ser Pro
145                   150                   155                   160
Glu Gly Gln Lys Ala Arg Asp Leu Arg Thr Pro Lys His Lys Val Ser
                165                   170                   175
Glu Gln Arg Pro Gly Thr Pro Gly Pro Pro Pro Glu Gly Ala Gln
            180                   185                   190
Gly Asp Gly Cys Arg Gly Val Ala Phe Asn Val Met Phe Ser Ala Pro
            195                   200                   205
His Ile
    210


<210> 77
<211> 509
<212> PRT
<213> Homo sapiens

<400> 77
Met Glu Arg Arg Arg Leu Trp Gly Ser Ile Gln Ser Arg Tyr Ile Ser
  1                 5                  10                    15
Met Ser Val Trp Thr Ser Pro Arg Arg Leu Val Glu Leu Ala Gly Gln
            20                    25                    30
Ser Leu Leu Lys Asp Glu Ala Leu Ala Ile Ala Ala Leu Glu Leu Leu
            35                    40                    45
Pro Arg Glu Leu Phe Pro Pro Leu Phe Met Ala Ala Phe Asp Gly Arg
        50                    55                    60
His Ser Gln Thr Leu Lys Ala Met Val Gln Ala Trp Pro Phe Thr Cys
65                    70                    75                    80
Leu Pro Leu Gly Val Leu Met Lys Gly Gln His Leu His Leu Glu Thr
                85                    90                    95
Phe Lys Ala Val Leu Asp Gly Leu Asp Val Leu Leu Ala Gln Glu Val
            100                   105                   110
Arg Pro Arg Arg Trp Lys Leu Gln Val Leu Asp Leu Arg Lys Asn Ser
            115                   120                   125
His Gln Asp Phe Trp Thr Val Trp Ser Gly Asn Arg Ala Ser Leu Tyr
            130                   135                   140
Ser Phe Pro Glu Pro Glu Ala Ala Gln Pro Met Thr Lys Lys Arg Lys
145                   150                   155                   160
Val Asp Gly Leu Ser Thr Glu Ala Glu Gln Pro Phe Ile Pro Val Glu
                165                   170                   175
Val Leu Val Asp Leu Phe Leu Lys Glu Gly Ala Cys Asp Glu Leu Phe
            180                   185                   190
Ser Tyr Leu Ile Glu Lys Val Lys Arg Lys Lys Asn Val Leu Arg Leu
            195                   200                   205
Cys Cys Lys Lys Leu Lys Ile Phe Ala Met Pro Met Gln Asp Ile Lys
            210                   215                   220
Met Ile Leu Lys Met Val Gln Leu Asp Ser Ile Glu Asp Leu Glu Val
225                   230                   235                   240
Thr Cys Thr Trp Lys Leu Pro Thr Leu Ala Lys Phe Ser Pro Tyr Leu
                245                   250                   255
```

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```
Gly Gln Met Ile Asn Leu Arg Arg Leu Leu Leu Ser His Ile His Ala
        260                 265                 270
Ser Ser Tyr Ile Ser Pro Glu Lys Glu Glu Gln Tyr Ile Ala Gln Phe
        275                 280                 285
Thr Ser Gln Phe Leu Ser Leu Gln Cys Leu Gln Ala Leu Tyr Val Asp
    290                 295                 300
Ser Leu Phe Phe Leu Arg Gly Arg Leu Asp Gln Leu Leu Arg His Val
305                 310                 315                 320
Met Asn Pro Leu Glu Thr Leu Ser Ile Thr Asn Cys Arg Leu Ser Glu
            325                 330                 335
Gly Asp Val Met His Leu Ser Gln Ser Pro Ser Val Ser Gln Leu Ser
            340                 345                 350
Val Leu Ser Leu Ser Gly Val Met Leu Thr Asp Val Ser Pro Glu Pro
        355                 360                 365
Leu Gln Ala Leu Leu Glu Arg Ala Ser Ala Thr Leu Gln Asp Leu Val
    370                 375                 380
Phe Asp Glu Cys Gly Ile Thr Asp Asp Gln Leu Leu Ala Leu Leu Pro
385                 390                 395                 400
Ser Leu Ser His Cys Ser Gln Leu Thr Thr Leu Ser Phe Tyr Gly Asn
            405                 410                 415
Ser Ile Ser Ile Ser Ala Leu Gln Ser Leu Leu Gln His Leu Ile Gly
            420                 425                 430
Leu Ser Asn Leu Thr His Val Leu Tyr Pro Val Pro Leu Glu Ser Tyr
        435                 440                 445
Glu Asp Ile His Gly Thr Leu His Leu Glu Arg Leu Ala Tyr Leu His
    450                 455                 460
Ala Arg Leu Arg Glu Leu Leu Cys Glu Leu Gly Arg Pro Ser Met Val
465                 470                 475                 480
Trp Leu Ser Ala Asn Pro Cys Pro His Cys Gly Asp Arg Thr Phe Tyr
            485                 490                 495
Asp Pro Glu Pro Ile Leu Cys Pro Cys Phe Met Pro Asn
        500                 505
```

<210> 78
<211> 261
<212> PRT
<213> Homo sapiens

<400> 78
```
Met Trp Val Pro Val Val Phe Leu Thr Leu Ser Val Thr Trp Ile Gly
  1               5                  10                  15
Ala Ala Pro Leu Ile Leu Ser Arg Ile Val Gly Gly Trp Glu Cys Glu
            20                  25                  30
Lys His Ser Gln Pro Trp Gln Val Leu Val Ala Ser Arg Gly Arg Ala
        35                  40                  45
Val Cys Gly Gly Val Leu Val His Pro Gln Trp Val Leu Thr Ala Ala
    50                  55                  60
His Cys Ile Arg Asn Lys Ser Val Ile Leu Leu Gly Arg His Ser Leu
65                  70                  75                  80
Phe His Pro Glu Asp Thr Gly Gln Val Phe Gln Val Ser His Ser Phe
                85                  90                  95
Pro His Pro Leu Tyr Asp Met Ser Leu Leu Lys Asn Arg Phe Leu Arg
            100                 105                 110
Pro Gly Asp Asp Ser Ser His Asp Leu Met Leu Leu Arg Leu Ser Glu
        115                 120                 125
Pro Ala Glu Leu Thr Asp Ala Val Lys Val Met Asp Leu Pro Thr Gln
```

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```
                130                       135                       140
Glu Pro Ala Leu Gly Thr Thr Cys Tyr Ala Ser Gly Trp Gly Ser Ile
145                       150                       155                       160
Glu Pro Glu Glu Phe Leu Thr Pro Lys Lys Leu Gln Cys Val Asp Leu
                    165                       170                       175
His Val Ile Ser Asn Asp Val Cys Ala Gln Val His Pro Gln Lys Val
                    180                       185                       190
Thr Lys Phe Met Leu Cys Ala Gly Arg Trp Thr Gly Gly Lys Ser Thr
                    195                       200                       205
Cys Ser Gly Asp Ser Gly Gly Pro Leu Val Cys Asn Gly Val Leu Gln
        210                       215                       220
Gly Ile Thr Ser Trp Gly Ser Glu Pro Cys Ala Leu Pro Glu Arg Pro
225                       230                       235                       240
Ser Leu Tyr Thr Lys Val Val His Tyr Arg Lys Trp Ile Lys Asp Thr
                    245                       250                       255
Ile Val Ala Asn Pro
                    260


<210> 79
<211> 123
<212> PRT
<213> Homo sapiens

<400> 79
Met Lys Ala Val Leu Leu Ala Leu Leu Met Ala Gly Leu Ala Leu Gln
 1               5                        10                        15
Pro Gly Thr Ala Leu Leu Cys Tyr Ser Cys Lys Ala Gln Val Ser Asn
                20                        25                        30
Glu Asp Cys Leu Gln Val Glu Asn Cys Thr Gln Leu Gly Glu Gln Cys
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Gly Cys Ser Leu Asn Cys Val Asp Asp Ser Gln Asp Tyr Tyr Val Gly
65                        70                        75                        80
Lys Lys Asn Ile Thr Cys Cys Asp Thr Asp Leu Cys Asn Ala Ser Gly
                85                        90                        95
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<213> Homo sapiens

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<213> Homo sapiens

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27
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<213> Homo sapiens

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29

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<210> 84
<211> 752
<212> DNA
<213> Homo sapiens

<400> 84
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ttcctgatgg cccagggggc aatgctggcg gcccaggaga ggcgggtgcc acgggcggca 180
gaggtccccg gggcgcaggg gcagcaaggg cctcggggcc gggaggaggc gccccgcggg 240
gtccgcatgg cggcgcggct tcaggctga atggatgctg cagatgcggg gccagggggc 300
cggagagccg cctgcttgag ttctacctcg ccatgccttt cgcgacaccc atggaagcag 360
agctggcccg caggagcctg gcccaggatg ccccaccgct tcccgtgcca ggggtgcttc 420
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gccaactgca gctctccatc agctcctgtc tccagcagct ttccctgttg atgtggatca 540
cgcagtgctt tctgcccgtg ttttttggctc agcctccctc agggcagagg cgctaagccc 600
agcctggcgc cccttcctag gtcatgcctc ctcccctagg gaatggtccc agcacgagtg 660
gccagttcat tgtggggggcc tgattgtttg tcgctggagg aggacggctt acatgtttgt 720
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<210> 85
<211> 2148
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2)
<223> n = A,T,C or G

<400> 85
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actctctgag gaaaaaccat tttgattatt actctcagac gtgcgtggca acaagtgact 180
gagacctaga aatccaagcg ttggaggtcc tgaggccagc ctaagtcgct tcaaaatgga 240
acgaaggcgt ttgtggggtt ccattcagag ccgatacatc agcatgagtg tgtggacaag 300
```

31

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cccacggaga cttgtggagc tggcagggca gagcctgctg aaggatgagg ccctggccat 360
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cgggagacac agccagaccc tgaaggcaat ggtgcaggcc tggcccttca cctgcctccc 480
tctgggagtg ctgatgaagg acaacatct tcacctggag accttcaaag ctgtgcttga 540
tggacttgat gtgctccttg cccaggaggt tcgccccagg aggtggaaac ttcaagtgct 600
ggatttacgg aagaactctc atcaggactt ctggactgta tggtctggaa acagggccag 660
tctgtactca tttccagagc cagaagcagc tcagcccatg acaaagaagc gaaaagtaga 720
tggtttgagc acagaggcag agcagccctt cattccagta gaggtgctcg tagacctgtt 780
cctcaaggaa ggtgcctgtg atgaattgtt ctcctacctc attgagaaag tgaagcgaaa 840
gaaaaatgta ctacgcctgt gctgtaagaa gctgaagatt tttgcaatgc ccatgcagga 900
tatcaagatg atcctgaaaa tggtgcagct ggactctatt gaagatttgg aagtgacttg 960
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gtgcccctgt ttcatgccta actagctggg tgcacatatc aaatgcttca ttctgcatac 1800
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acaaatgttc agtgtgagtg aggaaaaacat gttcagtgag gaaaaaacat tcagacaaat 1920
gttcagtgag gaaaaaaagg ggaagttggg gataggcaga tgttgacttg aggagttaat 1980
gtgatctttg gggagataca tcttatagag ttagaaatag aatctgaatt tctaaaggga 2040
gattctggct tgggaagtac atgtaggagt taatccctgt gtagactgtt gtaaagaaac 2100
tgttgaaaat aaagagaagc aatgtgaagc aaaaaaaaaa aaaaaaa      2148
```

<210> 86
<211> 1466
<212> DNA
<213> Homo sapiens

<400> 86
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agccccaagc ttaccacctg cacccggaga gctgtgtgtc accatgtggg tcccggttgt 60
cttcctcacc ctgtccgtga cgtggattgg tgctgcaccc ctcatcctgt ctcggattgt 120
gggaggctgg gagtgcgaga agcattccca accctggcag gtgcttgtgg cctctcgtgg 180
cagggcagtc tgcggcggtg ttctggtgca ccccagtgg gtcctcacag ctgcccactg 240
catcaggaac aaaagcgtga tcttgctggg tcggcacagc ctgtttcatc ctgaagacac 300
aggccaggta tttcaggtca gccacagctt cccacacccg ctctacgata tgagcctcct 360
gaagaatcga ttcctcaggc caggtgatga ctccagccac gacctcatgc tgctccgcct 420
gtcagagcct gccgagctca cggatgctgt gaaggtcatg gacctgccca cccaggagcc 480
agcactgggg accacctgct acgcctcagg ctggggcagc attgaaccag aggagttctt 540
gaccccaaag aaacttcagt gtgtggacct ccatgttatt ccaatgacg tgtgtgcgca 600
agttcaccct cagaaggtga ccaagttcat gctgtgtgct ggacgctgga caggggcaa 660
aagcacctgc tcgggtgatt ctggggcccc acttgtctgt aatggtgtgc ttcaaggtat 720
cacgtcatgg ggcagtgaac catgtgccct gcccgaaagg ccttccctgt acaccaaggt 780
ggtgcattac cggaagtgga tcaaggacac catcgtggcc aacccctgag caccctatc 840
aaccccctat tgtagtaaac ttggaacctt ggaaatgacc aggccaagac tcaagcctcc 900
ccagttctac tgacctttgt ccttaggtgt gaggtccagg gttgctagga aagaaatca 960
gcagacacag gtgtagacca gagtgtttct taaatggtgt aattttgtcc tctctgtgtc 1020
ctggggaata ctggccatgc ctggagacat atcactcaat ttctctgagg acacagatag 1080
gatggggtgt ctgtgttatt tgtggggtac agagatgaaa gaggggtggg atccacactg 1140
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```

```
agagagtgga gagtgacatg tgctggacac tgtccatgaa gcactgagca gaagctggag 1200
gcacaacgca ccagacactc acagcaagga tggagctgaa aacataaccc actctgtcct 1260
ggaggcactg ggaagcctag agaaggctgt gagccaagga gggagggtct tcctttggca 1320
tgggatgggg atgaagtaag gagagggact ggaccccctg gaagctgatt cactatgggg 1380
ggaggtgtat tgaagtcctc cagacaaccc tcagatttga tgatttccta gtagaactca 1440
cagaaataaa gagctgttat actgtg   1466

<210> 87
<211> 990
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(990)
<223> n = A,T,C or G

<400> 87
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tgcagccagg cactgccctg ctgtgctact cctgcaaagc ccaggtgagc aacgaggact 120
gcctgcaggt ggagaactgc acccagctgg gggagcagtg ctggaccgcg cgcatccgcg 180
cagttggcct cctgaccgtc atcagcaaag gctgcagctt gaactgcgtg gatgactcac 240
aggactacta cgtgggcaag aagaacatca cgtgctgtga caccgacttg tgcaacgcca 300
gcgggggccca tgccctgcag ccggctgccg ccatccttgc gctgctccct gcactcggcc 360
tgctgctctg ggacccggc cagctatagg ctctgggggg ccccgctgca gcccacactg 420
ggtgtggtgc cccaggcctt tgtgccactc ctcacagaac ctggcccagt gggagcctgt 480
cctggttcct gaggcacatc ctaacgcaag tttgaccatg tatgtttgca ccccttttcc 540
ccnaaccctg accttcccat gggcctttc caggattccn accnggcaga tcagttttag 600
tganacanat ccgcntgcag atggcccctc caaccntttn tgttgntgtt tccatggccc 660
agcattttcc acccttaacc ctgtgttcag gcacttnttc ccccaggaag ccttccctgc 720
ccacccatt tatgaattga gccaggtttg gtccgtggtg tcccccgcac cagcaggggg 780
acaggcaatc aggagggccc agtaaaggct gagatgaagt ggactgagta gaactggagg 840
acaagagttg acgtgagttc ctgggagttt ccagagatgg ggcctggagg cctggaggaa 900
ggggccaggc ctcacatttg tggggntccc gaatggcagc ctgagcacag cgtaggccct 960
taataaacac ctgttggata agccaaaaaa   990

<210> 88
<211> 702
<212> PRT
<213> Homo sapiens

<400> 88
Met Glu Ser Pro Ser Ala Pro Pro His Arg Trp Cys Ile Pro Trp Gln
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Arg Leu Leu Leu Thr Ala Ser Leu Leu Thr Phe Trp Asn Pro Pro Thr
            20   25   30
Thr Ala Lys Leu Thr Ile Glu Ser Thr Pro Phe Asn Val Ala Glu Gly
        35   40   45
Lys Glu Val Leu Leu Leu Val His Asn Leu Pro Gln His Leu Phe Gly
    50   55   60
Tyr Ser Trp Tyr Lys Gly Glu Arg Val Asp Gly Asn Arg Gln Ile Ile
65   70   75   80
Gly Tyr Val Ile Gly Thr Gln Gln Ala Thr Pro Gly Pro Ala Tyr Ser
                85   90   95
Gly Arg Glu Ile Ile Tyr Pro Asn Ala Ser Leu Leu Ile Gln Asn Ile
                100   105   110
Ile Gln Asn Asp Thr Gly Phe Tyr Thr Leu His Val Ile Lys Ser Asp
```

```
              115                    120                    125
Leu Val Asn Glu Glu Ala Thr Gly Gln Phe Arg Val Tyr Pro Glu Leu
    130                    135                    140
Pro Lys Pro Ser Ile Ser Ser Asn Asn Ser Lys Pro Val Glu Asp Lys
145                    150                    155                    160
Asp Ala Val Ala Phe Thr Cys Glu Pro Glu Thr Gln Asp Ala Thr Tyr
                   165                    170                    175
Leu Trp Trp Val Asn Asn Gln Ser Leu Pro Val Ser Pro Arg Leu Gln
                   180                    185                    190
Leu Ser Asn Gly Asn Arg Thr Leu Thr Leu Phe Asn Val Thr Arg Asn
        195                    200                    205
Asp Thr Ala Ser Tyr Lys Cys Glu Thr Gln Asn Pro Val Ser Ala Arg
        210                    215                    220
Arg Ser Asp Ser Val Ile Leu Asn Val Leu Tyr Gly Pro Asp Ala Pro
225                    230                    235                    240
Thr Ile Ser Pro Leu Asn Thr Ser Tyr Arg Ser Gly Glu Asn Leu Asn
                   245                    250                    255
Leu Ser Cys His Ala Ala Ser Asn Pro Pro Ala Gln Tyr Ser Trp Phe
                   260                    265                    270
Val Asn Gly Thr Phe Gln Gln Ser Thr Gln Glu Leu Phe Ile Pro Asn
        275                    280                    285
Ile Thr Val Asn Asn Ser Gly Ser Tyr Thr Cys Gln Ala His Asn Ser
        290                    295                    300
Asp Thr Gly Leu Asn Arg Thr Thr Val Thr Thr Ile Thr Val Tyr Ala
305                    310                    315                    320
Glu Pro Pro Lys Pro Phe Ile Thr Ser Asn Asn Ser Asn Pro Val Glu
                   325                    330                    335
Asp Glu Asp Ala Val Ala Leu Thr Cys Glu Pro Glu Ile Gln Asn Thr
        340                    345                    350
Thr Tyr Leu Trp Trp Val Asn Asn Gln Ser Leu Pro Val Ser Pro Arg
        355                    360                    365
Leu Gln Leu Ser Asn Asp Asn Arg Thr Leu Thr Leu Leu Ser Val Thr
        370                    375                    380
Arg Asn Asp Val Gly Pro Tyr Glu Cys Gly Ile Gln Asn Glu Leu Ser
385                    390                    395                    400
Val Asp His Ser Asp Pro Val Ile Leu Asn Val Leu Tyr Gly Pro Asp
                   405                    410                    415
Asp Pro Thr Ile Ser Pro Ser Tyr Thr Tyr Tyr Arg Pro Gly Val Asn
                   420                    425                    430
Leu Ser Leu Ser Cys His Ala Ala Ser Asn Pro Pro Ala Gln Tyr Ser
        435                    440                    445
Trp Leu Ile Asp Gly Asn Ile Gln Gln His Thr Gln Glu Leu Phe Ile
        450                    455                    460
Ser Asn Ile Thr Glu Lys Asn Ser Gly Leu Tyr Thr Cys Gln Ala Asn
465                    470                    475                    480
Asn Ser Ala Ser Gly His Ser Arg Thr Thr Val Lys Thr Ile Thr Val
                   485                    490                    495
Ser Ala Glu Leu Pro Lys Pro Ser Ile Ser Ser Asn Asn Ser Lys Pro
                   500                    505                    510
Val Glu Asp Lys Asp Ala Val Ala Phe Thr Cys Glu Pro Glu Ala Gln
        515                    520                    525
Asn Thr Thr Tyr Leu Trp Trp Val Asn Gly Gln Ser Leu Pro Val Ser
        530                    535                    540
Pro Arg Leu Gln Leu Ser Asn Gly Asn Arg Thr Leu Thr Leu Phe Asn
545                    550                    555                    560
Val Thr Arg Asn Asp Ala Arg Ala Tyr Val Cys Gly Ile Gln Asn Ser
                   565                    570                    575
```

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```
Val Ser Ala Asn Arg Ser Asp Pro Val Thr Leu Asp Val Leu Tyr Gly
        580                 585                 590
Pro Asp Thr Pro Ile Ile Ser Pro Pro Asp Ser Ser Tyr Leu Ser Gly
        595                 600                 605
Ala Asn Leu Asn Leu Ser Cys His Ser Ala Ser Asn Pro Ser Pro Gln
    610                 615                 620
Tyr Ser Trp Arg Ile Asn Gly Ile Pro Gln Gln His Thr Gln Val Leu
625                 630                 635                 640
Phe Ile Ala Lys Ile Thr Pro Asn Asn Asn Gly Thr Tyr Ala Cys Phe
                645                 650                 655
Val Ser Asn Leu Ala Thr Gly Arg Asn Asn Ser Ile Val Lys Ser Ile
                660                 665                 670
Thr Val Ser Ala Ser Gly Thr Ser Pro Gly Leu Ser Ala Gly Ala Thr
        675                 680                 685
Val Gly Ile Met Ile Gly Val Leu Val Gly Val Ala Leu Ile   '
    690                 695                 700
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<210> 89
<211> 2974
<212> DNA
<213> Homo sapiens

<400> 89
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ctcagggcag agggaggaag gacagcagac cagacagtca cagcagcctt gacaaaacgt  60
tcctggaact caagctcttc tccacagagg aggacagagc agacagcaga gaccatggag 120
tctccctcgg cccctcccca cagatggtgc atccctggc agaggctcct gctcacagcc 180
tcacttctaa ccttctggaa cccgcccacc actgccaagc tcactattga atccacgccg 240
ttcaatgtcg cagaggggaa ggaggtgctt ctacttgtcc acaatctgcc ccagcatctt 300
tttggctaca gctggtacaa aggtgaaaga gtggatggca accgtcaaat tataggatat 360
gtaataggaa ctcaacaagc taccccaggg cccgcataca gtggtcgaga gataatatac 420
cccaatgcat ccctgctgat ccagaacatc atccagaatg acacaggatt ctacacccta 480
cacgtcataa agtcagatct tgtgaatgaa gaagcaactg ccagttccg ggtatacccg 540
gagctgccca gccctccat ctccagcaac aactccaaac ccgtggagga caaggatgct 600
gtggccttca cctgtgaacc tgagactcag gacgcaacct acctgtggtg ggtaaacaat 660
cagagcctcc cggtcagtcc caggctgcag ctgtccaatg caacaggac cctcactcta 720
ttcaatgtca caagaaatga cacagcaagc tacaaatgtg aaacccagaa cccagtgagt 780
gccaggcgca gtgattcagt catcctgaat gtcctctatg cccggatgc ccccaccatt 840
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tctaacccac ctgcacagta ctcttggttt gtcaatggga ctttccagca atccacccaa 960
gagctcttta tccccaacat cactgtgaat aatagtggat cctatacgtg ccaagcccat 1020
aactcagaca ctggcctcaa taggaccaca gtcacgacga tcacagtcta tgcagagcca 1080
cccaaaccct tcatcaccag caacaactcc aaccccgtgg aggatgagga tgctgtagcc 1140
ttaacctgtg aacctgagat tcagaacaca acctacctgt ggtgggtaaa taatcagagc 1200
ctccggtca gtcccaggct gcagctgtcc aatgacaaca ggaccctcac tctactcagt 1260
gtcacaagga atgatgtagg accctatgag tgtggaatcc agaacgaatt aagtgttgac 1320
cacagcgacc cagtcatcct gaatgtcctc tatggcccag acgacccac catttccccc 1380
tcatacacct attaccgtcc aggggtgaac ctcagcctct cctgccatgc agcctctaac 1440
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tttatctcca acatcactga aagaacagc ggactctata cctgccaggc caataactca 1560
gccagtggcc acagcaggac tacagtcaag acaatcacag tctctgcgga gctgcccaag 1620
ccctccatct ccagcaacaa ctccaaaccc gtggaggaca aggatgctgt ggccttcacc 1680
tgtgaacctg aggctcagaa cacaacctac ctgtggtggg taaatggtca gagcctccca 1740
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agaaatgacg caagagccta tgtatgtgga atccagaact cagtgagtgc aaaccgcagt 1860
gacccagtca ccctggatgt cctctatggg ccggacaccc catcatttc cccccagac 1920
tcgtcttacc tttcgggagc gaacctcaac ctctcctgcc actcggcctc taacccatcc 1980
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                                    35

```
ccgcagtatt cttggcgtat caatgggata ccgcagcaac acacacaagt tctctttatc 2040
gccaaaatca cgccaaataa taacgggacc tatgcctgtt ttgtctctaa cttggctact 2100
ggccgcaata attccatagt caagagcatc acagtctctg catctggaac ttctcctggt 2160
ctctcagctg gggccactgt cggcatcatg attggagtgc tggttggggt tgctctgata 2220
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taattaattt catgggacta aatgaactaa tgaggattgc tgattcttta aatgtcttgt 2760
ttcccagatt tcaggaaact ttttttcttt taagctatcc actcttacag caatttgata 2820
aaatatactt ttgtgaacaa aaattgagac atttacattt tctccctatg tggtcgctcc 2880
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tcaataaaaa tctgctcttt gtataacaga aaaa                                2974
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<210> 90
<211> 1255
<212> PRT
<213> Homo sapiens

<400> 90
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Met Glu Leu Ala Ala Leu Cys Arg Trp Gly Leu Leu Leu Ala Leu Leu
1               5                   10                  15
Pro Pro Gly Ala Ala Ser Thr Gln Val Cys Thr Gly Thr Asp Met Lys
            20                  25                  30
Leu Arg Leu Pro Ala Ser Pro Glu Thr His Leu Asp Met Leu Arg His
        35                  40                  45
Leu Tyr Gln Gly Cys Gln Val Val Gln Gly Asn Leu Glu Leu Thr Tyr
    50                  55                  60
Leu Pro Thr Asn Ala Ser Leu Ser Phe Leu Gln Asp Ile Gln Glu Val
65                  70                  75                  80
Gln Gly Tyr Val Leu Ile Ala His Asn Gln Val Arg Gln Val Pro Leu
            85                  90                  95
Gln Arg Leu Arg Ile Val Arg Gly Thr Gln Leu Phe Glu Asp Asn Tyr
            100                 105                 110
Ala Leu Ala Val Leu Asp Asn Gly Asp Pro Leu Asn Asn Thr Thr Pro
        115                 120                 125
Val Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu Gln Leu Arg Ser
    130                 135                 140
Leu Thr Glu Ile Leu Lys Gly Gly Val Leu Ile Gln Arg Asn Pro Gln
145                 150                 155                 160
Leu Cys Tyr Gln Asp Thr Ile Leu Trp Lys Asp Ile Phe His Lys Asn
            165                 170                 175
Asn Gln Leu Ala Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys
            180                 185                 190
His Pro Cys Ser Pro Met Cys Lys Gly Ser Arg Cys Trp Gly Glu Ser
        195                 200                 205
Ser Glu Asp Cys Gln Ser Leu Thr Arg Thr Val Cys Ala Gly Gly Cys
    210                 215                 220
Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys
225                 230                 235                 240
Ala Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu
            245                 250                 255
His Phe Asn His Ser Gly Ile Cys Glu Leu His Cys Pro Ala Leu Val
```

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```
              260                    265                     270
Thr Tyr Asn Thr Asp Thr Phe Glu Ser Met Pro Asn Pro Glu Gly Arg
        275                    280                 285
Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro Tyr Asn Tyr Leu
        290                    295                 300
Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln
305                        310                315                320
Glu Val Thr Ala Glu Asp Gly Thr Gln Arg Cys Glu Lys Cys Ser Lys
                325                    330                 335
Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu
            340                    345                 350
Val Arg Ala Val Thr Ser Ala Asn Ile Gln Glu Phe Ala Gly Cys Lys
        355                    360                 365
Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp
    370                    375                 380
Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe
385                    390                 395                400
Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro
                405                    410                 415
Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg
            420                    425                 430
Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu
        435                    440                 445
Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly
    450                    455                 460
Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val
465                        470                475                480
Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr
                485                    490                 495
Ala Asn Arg Pro Glu Asp Glu Cys Val Gly Glu Gly Leu Ala Cys His
            500                    505            .      510
Gln Leu Cys Ala Arg Gly His Cys Trp Gly Pro Gly Pro Thr Gln Cys
        515                    520                 525          .
Val Asn Cys Ser Gln Phe Leu Arg Gly Gln Glu Cys Val Glu Glu Cys
    530                    535                 540
Arg Val Leu Gln Gly Leu Pro Arg Glu Tyr Val Asn Ala Arg His Cys
545     .                  550                 555                560
Leu Pro Cys His Pro Glu Cys Gln Pro Gln Asn Gly Ser Val Thr Cys
                565                    570                 575
Phe Gly Pro Glu Ala Asp Gln Cys Val Ala Cys Ala His Tyr Lys Asp
            580                    585                 590
Pro Pro Phe Cys Val Ala Arg Cys Pro Ser Gly Val Lys Pro Asp Leu
        595                    600                 605
Ser Tyr Met Pro Ile Trp Lys Phe Pro Asp Glu Glu Gly Ala Cys Gln
    610                    615                 620
Pro Cys Pro Ile Asn Cys Thr His Ser Cys Val Asp Leu Asp Asp Lys
625                        630                635                640
Gly Cys Pro Ala Glu Gln Arg Ala Ser Pro Leu Thr Ser Ile Val Ser
                645                    650                 655
Ala Val Val Gly Ile Leu Leu Val Val Leu Gly Val Val Phe Gly
            660                    665                 670
Ile Leu Ile Lys Arg Arg Gln Gln Lys Ile Arg Lys Tyr Thr Met Arg
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Arg Leu Leu Gln Glu Thr Glu Leu Val Glu Pro Leu Thr Pro Ser Gly
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Ala Met Pro Asn Gln Ala Gln Met Arg Ile Leu Lys Glu Thr Glu Leu
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Gly Ile Trp Ile Pro Asp Gly Glu Asn Val Lys Ile Pro Val Ala Ile
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Lys Val Leu Arg Glu Asn Thr Ser Pro Lys Ala Asn Lys Glu Ile Leu
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Asp Glu Ala Tyr Val Met Ala Gly Val Gly Ser Pro Tyr Val Ser Arg
              770                 775                 780
Leu Leu Gly Ile Cys Leu Thr Ser Thr Val Gln Leu Val Thr Gln Leu
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Met Pro Tyr Gly Cys Leu Leu Asp His Val Arg Glu Asn Arg Gly Arg
              805                 810                 815
Leu Gly Ser Gln Asp Leu Leu Asn Trp Cys Met Gln Ile Ala Lys Gly
              820                 825                 830
Met Ser Tyr Leu Glu Asp Val Arg Leu Val His Arg Asp Leu Ala Ala
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Arg Arg Phe Thr His Gln Ser Asp Val Trp Ser Tyr Gly Val Thr Val
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Pro Ile Cys Thr Ile Asp Val Tyr Met Ile Met Val Lys Cys Trp Met
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Ile Asp Ser Glu Cys Arg Pro Arg Phe Arg Glu Leu Val Ser Glu Phe
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Ser Arg Met Ala Arg Asp Pro Gln Arg Phe Val Val Ile Gln Asn Glu
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Asp Leu Gly Pro Ala Ser Pro Leu Asp Ser Thr Phe Tyr Arg Ser Leu
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Val Pro Gln Gln Gly Phe Phe Cys Pro Asp Pro Ala Pro Gly Ala Gly
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              1075                1080                1085
Asp Leu Gly Met Gly Ala Ala Lys Gly Leu Gln Ser Leu Pro Thr His
              1090                1095                1100
Asp Pro Ser Pro Leu Gln Arg Tyr Ser Glu Asp Pro Thr Val Pro Leu
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Pro Ser Glu Thr Asp Gly Tyr Val Ala Pro Leu Thr Cys Ser Pro Gln
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Pro Glu Tyr Val Asn Gln Pro Asp Val Arg Pro Gln Pro Pro Ser Pro
              1140                1145                1150
Arg Glu Gly Pro Leu Pro Ala Ala Arg Pro Ala Gly Ala Thr Leu Glu
              1155                1160                1165
Arg Ala Lys Thr Leu Ser Pro Gly Lys Asn Gly Val Val Lys Asp Val
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38

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Phe Ala Phe Gly Gly Ala Val Glu Asn Pro Glu Tyr Leu Thr Pro Gln
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Gly Gly Ala Ala Pro Gln Pro His Pro Pro Pro Ala Phe Ser Pro Ala
                 1205               1210              1215
Phe Asp Asn Leu Tyr Tyr Trp Asp Gln Asp Pro Pro Glu Arg Gly Ala
                 1220               1225              1230
Pro Pro Ser Thr Phe Lys Gly Thr Pro Thr Ala Glu Asn Pro Glu Tyr
         1235               1240               1245
Leu Gly Leu Asp Val Pro Val
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39

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Thr Phe Phe Lys Ser Phe Asn Lys Cys Thr Glu Asp Asp Leu Glu Phe
        35   40   45
Pro Phe Ala Lys Thr Asn Leu Ser Lys Asn Gly Glu Asn Ile Asp Ser
    50   55   60
Asp Pro Ala Leu Gln Lys Val Asn Phe Leu Pro Val Leu Glu Gln Val
65   70   75   80
Gly Asn Ser Asp Cys His Tyr Gln Glu Gly Leu Lys Asp Ser Asp Leu
                85   90   95

40

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Ala Glu Lys Ile Lys Lys Trp Lys Val Ser Thr Glu Ala Glu Leu Arg
         115                     120                 125
Gln Lys Glu Ser Lys Leu Gln Glu Asn Arg Lys Ile Ile Glu Ala Gln
     130                     135                 140
Arg Lys Ala Ile Gln Glu Leu Gln Phe Gly Asn Glu Lys Val Ser Leu
145                     150                     155                 160
Lys Leu Glu Glu Gly Ile Gln Glu Asn Lys Asp Leu Ile Lys Glu Asn
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Asn Ala Thr Arg His Leu Cys Asn Leu Leu Lys Glu Thr Cys Ala Arg
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Ser Ala Glu Lys Thr Lys Lys Tyr Glu Tyr Glu Arg Glu Glu Thr Arg
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Gln Val Tyr Met Asp Leu Asn Asn Asn Ile Glu Lys Met Ile Thr Ala
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His Gly Glu Leu Arg Val Gln Ala Glu Asn Ser Arg Leu Glu Met His
225                     230                     235                 240
Phe Lys Leu Lys Glu Asp Tyr Glu Lys Ile Gln His Leu Glu Gln Glu
             245                     250                     255
Tyr Lys Lys Glu Ile Asn Asp Lys Glu Lys Gln Val Ser Leu Leu Leu
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Ile Gln Ile Thr Glu Lys Glu Asn Lys Met Lys Asp Leu Thr Phe Leu
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Leu Glu Glu Ser Arg Asp Lys Val Asn Gln Leu Glu Glu Lys Thr Lys
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Leu Gln Ser Glu Asn Leu Lys Gln Ser Ile Glu Lys Gln His His Leu
305                     310                     315                 320
Thr Lys Glu Leu Glu Asp Ile Lys Val Ser Leu Gln Arg Ser Val Ser
             325                     330                     335
Thr Gln Lys Ala Leu Glu Glu Asp Leu Gln Ile Ala Thr Lys Thr Ile
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Cys Gln Leu Thr Glu Glu Lys Glu Thr Gln Met Glu Glu Ser Asn Lys
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Ala Arg Ala Ala His Ser Phe Val Val Thr Glu Phe Glu Thr Thr Val
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Cys Ser Leu Glu Glu Leu Leu Arg Thr Glu Gln Gln Arg Leu Glu Lys
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Asn Glu Asp Gln Leu Lys Ile Leu Thr Met Glu Leu Gln Lys Lys Ser
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Leu Glu Glu Leu Lys Lys Val Leu Gly Glu Lys Glu Thr Leu Leu Tyr
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Glu Asn Lys Gln Phe Glu Lys Ile Ala Glu Glu Leu Lys Gly Thr Glu
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Gln Glu Leu Ile Gly Leu Leu Gln Ala Arg Glu Lys Glu Val His Asp
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Leu Glu Ile Gln Leu Thr Ala Ile Thr Thr Ser Glu Gln Tyr Tyr Ser
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Lys Glu Val Lys Asp Leu Lys Thr Glu Leu Glu Asn Glu Lys Leu Lys
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Asn Thr Glu Leu Thr Ser His Cys Asn Lys Leu Ser Leu Glu Asn Lys
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Gln Glu Asp Ile Asn Asn Asn Lys Lys Gln Glu Glu Arg Met Leu Lys
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41

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Lys Leu Asp Lys Ser Glu Glu Asn Cys Asn Asn Leu Arg Lys Gln Val
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Glu Asn Lys Asn Lys Tyr Ile Glu Glu Leu Gln Gln Glu Asn Lys Ala
            610                    615                    620
Leu Lys Lys Lys Gly Thr Ala Glu Ser Lys Gln Leu Asn Val Tyr Glu
        625                    630                    635                    640
Ile Lys Val Asn Lys Leu Glu Leu Glu Leu Glu Ser Ala Lys Gln Lys
                    645                    650                    655
Phe Gly Glu Ile Thr Asp Thr Tyr Gln Lys Glu Ile Glu Asp Lys Lys
                660                    665                    670
Ile Ser Glu Glu Asn Leu Leu Glu Glu Val Glu Lys Ala Lys Val Ile
            675                    680                    685
Ala Asp Glu Ala Val Lys Leu Gln Lys Glu Ile Asp Lys Arg Cys Gln
        690                    695                    700
His Lys Ile Ala Glu Met Val Ala Leu Met Glu Lys His Lys His Gln
    705                    710                    715                    720
Tyr Asp Lys Ile Ile Glu Glu Arg Asp Ser Glu Leu Gly Leu Tyr Lys
                    725                    730                    735
Ser Lys Glu Gln Glu Gln Ser Ser Leu Arg Ala Ser Leu Glu Ile Glu
                740                    745                    750
Leu Ser Asn Leu Lys Ala Glu Leu Leu Ser Val Lys Lys Gln Leu Glu
                755                    760                    765
Ile Glu Arg Glu Glu Lys Glu Lys Leu Lys Arg Glu Ala Lys Glu Asn
        770                    775                    780
Thr Ala Thr Leu Lys Glu Lys Lys Asp Lys Lys Thr Gln Thr Phe Leu
    785                    790                    795                    800
Leu Glu Thr Pro Glu Ile Tyr Trp Lys Leu Asp Ser Lys Ala Val Pro
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Ser Gln Thr Val Ser Arg Asn Phe Thr Ser Val Asp His Gly Ile Ser
                820                    825                    830
Lys Asp Lys Arg Asp Tyr Leu Trp Thr Ser Ala Lys Asn Thr Leu Ser
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Thr Pro Leu Pro Lys Ala Tyr Thr Val Lys Thr Pro Thr Lys Pro Lys
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Leu Gln Gln Arg Glu Asn Leu Asn Ile Pro Ile Glu Glu Ser Lys Lys
    865                    870                    875                    880
Lys Arg Lys Met Ala Phe Glu Phe Asp Ile Asn Ser Asp Ser Ser Glu
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Thr Thr Asp Leu Leu Ser Met Val Ser Glu Glu Glu Thr Leu Lys Thr
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Leu Tyr Arg Asn Asn Asn Pro Pro Ala Ser His Leu Cys Val Lys Thr
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Pro Lys Lys Ala Pro Ser Ser Leu Thr Thr Pro Gly Pro Thr Leu Lys
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Phe Gly Ala Ile Arg Lys Met Arg Glu Asp Arg Trp Ala Val Ile Ala
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42

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tgagacttaa aaaatacttg catgaatgat ttgtgtttct ttatattttt agcctaaatg 3180

43

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ttaactacat attgtctgga aacctgtcat tgtattcaga taattagatg attatatatt 3240
gttgttactt tttcttgtat tcatgaaaac tgtttttact aagttttcaa atttgtaaag 3300
ttagcctttg aatgctagga atgcattatt gagggtcatt ctttattctt tactattaaa 3360
atattttgga tgcaaaaaaa aaaaaaaaaa aaa                            3393
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<210> 94
<211> 188
<212> PRT
<213> Homo sapiens

<400> 94
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Met Asn Gly Asp Asp Ala Phe Ala Arg Arg Pro Arg Asp Asp Ala Gln
 1               5                  10                  15
Ile Ser Glu Lys Leu Arg Lys Ala Phe Asp Asp Ile Ala Lys Tyr Phe
            20                  25                  30
Ser Lys Lys Glu Trp Glu Lys Met Lys Ser Ser Glu Lys Ile Val Tyr
            35                  40                  45
Val Tyr Met Lys Leu Asn Tyr Glu Val Met Thr Lys Leu Gly Phe Lys
    50                  55                  60
Val Thr Leu Pro Pro Phe Met Arg Ser Lys Arg Ala Ala Asp Phe His
65                  70                  75                  80
Gly Asn Asp Phe Gly Asn Asp Arg Asn His Arg Asn Gln Val Glu Arg
                85                  90                  95
Pro Gln Met Thr Phe Gly Ser Leu Gln Arg Ile Phe Pro Lys Ile Met
            100                 105                 110
Pro Lys Lys Pro Ala Glu Glu Glu Asn Gly Leu Lys Glu Val Pro Glu
        115                 120                 125
Ala Ser Gly Pro Gln Asn Asp Gly Lys Gln Leu Cys Pro Pro Gly Asn
    130                 135                 140
Pro Ser Thr Leu Glu Lys Ile Asn Lys Thr Ser Gly Pro Lys Arg Gly
145                 150                 155                 160
Lys His Ala Trp Thr His Arg Leu Arg Glu Arg Lys Gln Leu Val Val
                165                 170                 175
Tyr Glu Glu Ile Ser Asp Pro Glu Glu Asp Asp Glu
                180                 185
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<210> 95
<211> 576
<212> DNA
<213> Homo sapiens

<400> 95
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atgaacggag acgacgcctt tgcaaggaga cccagggatg atgctcaaat atcagagaag 60
ttacgaaagg ccttcgatga tattgccaaa tacttctcta agaaagagtg ggaaaagatg 120
aaatcctcgg agaaaatcgt ctatgtgtat atgaagctaa actatgaggt catgactaaa 180
ctaggtttca aggtcaccct cccacctttc atgcgtagta acgggctgc agacttccac 240
gggaatgatt ttggtaacga tcgaaaccac aggaatcagg ttgaacgtcc tcagatgact 300
ttcggcagcc tccagagaat cttcccgaag atcatgccca gaagccagc agaggaagaa 360
aatggtttga ggaagtgcc agaggcatct ggcccacaaa atgatgggaa acagctgtgc 420
ccccgggaa atccaagtac cttggagaag attaacaaga catctggacc caaaaggggg 480
aaacatgcct ggacccacag actgcgtgag agaaagcagc tggtggttta tgaagagatc 540
agcgaccctg aggaagatga cgagtaactc ccctcg                        576
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<210> 96
<211> 94
<212> PRT

44

<213> Homo sapiens

<400> 96
Pro Ala Thr Gln Arg Gln Asp Pro Ala Ala Ala Gln Glu Gly Glu Asp
1   5   10   15
Glu Gly Ala Ser Ala Gly Gln Gly Pro Lys Pro Glu Ala Asp Ser Gln
            20   25   30
Glu Gln Gly His Pro Gln Thr Gly Cys Glu Cys Glu Asp Gly Pro Asp
        35   40   45
Gly Gln Glu Met Asp Pro Pro Asn Pro Glu Glu Val Lys Thr Pro Glu
    50   55   60
Glu Glu Met Arg Ser His Tyr Val Ala Gln Thr Gly Ile Leu Trp Leu
65   70   75   80
Leu Met Asn Asn Cys Phe Leu Asn Leu Ser Pro Arg Lys Pro
                85   90

<210> 97
<211> 646
<212> DNA
<213> Homo sapiens

<400> 97
ctgccgtccg gactcttttt cctctactga gattcatctg tgtgaaatat gagttggcga 60
ggaagatcga cctatcggcc tagaccaaga cgctacgtag agcctcctga aatgattggg 120
cctatgcggc ccgagcagtt cagtgatgaa gtggaaccag caacacctga agaaggggaa 180
ccagcaactc aacgtcagga tcctgcagct gctcaggagg gagaggatga gggagcatct 240
gcaggtcaag ggccgaagcc tgaagctgat agccaggaac agggtcaccc acagactggg 300
tgtgagtgtg aagatggtcc tgatgggcag gagatggacc cgccaaatcc agaggaggtg 360
aaaacgcctg aagaagagat gaggtctcac tatgttgccc agactgggat tctctggctt 420
ttaatgaaca attgcttctt aaatctttcc ccacggaaac cttgagtgac tgaaatatca 480
aatggcgaga gaccgtttag ttcctatcat ctgtggcatg tgaagggcaa tcacagtgtt 540
aaaagaagac atgctgaaat gttgcaggct gctcctatgt tggaaaattc ttcattgaag 600
ttctcccaat aaagctttac agccttctgc aaagaaaaaa aaaaaa   646

<210> 98
<211> 98
<212> PRT
<213> Homo sapiens

<400> 98
His Cys Pro Thr Glu Asn Glu Pro Asp Leu Ala Gln Cys Phe Phe Cys
1   5   10   15
Phe Lys Glu Leu Glu Gly Trp Glu Pro Asp Asp Asp Pro Ile Glu Glu
            20   25   30
His Lys Lys His Ser Ser Gly Cys Ala Phe Leu Ser Val Lys Lys Gln
        35   40   45
Phe Glu Glu Leu Thr Leu Gly Glu Phe Leu Lys Leu Asp Arg Glu Arg
    50   55   60
Ala Lys Asn Lys Ile Ala Lys Glu Thr Asn Asn Lys Lys Lys Glu Phe
65   70   75   80
Glu Glu Thr Ala Lys Lys Val Arg Arg Ala Ile Glu Gln Leu Ala Ala
                85   90   95
Met Asp

45

<210> 99
<211> 1619
<212> DNA
<213> Homo sapiens

<400> 99
ccgccagatt tgaatcgcgg gacccgttgg cagaggtggc ggcggcggca tgggtgcccc 60
gacgttgccc cctgcctggc agccctttct caaggaccac cgcatctcta cattcaagaa 120
ctggcccttc ttggagggct gcgcctgcac cccggagcgg atggccgagg ctggcttcat 180
ccactgcccc actgagaacg agccagactt ggcccagtgt ttcttctgct tcaaggagct 240
ggaaggctgg gagccagatg acgaccccat agaggaacat aaaaagcatt cgtccggttg 300
cgctttcctt tctgtcaaga agcagtttga agaattaacc cttggtgaat ttttgaaact 360
ggacagagaa agagccaaga acaaaattgc aaaggaaacc aacaataaga agaaagaatt 420
tgaggaaact gcgaagaaag tgcgccgtgc catcgagcag ctggctgcca tggattgagg 480
cctctggccg gagctgcctg gtcccagagt ggctgcacca cttccagggt ttattccctg 540
gtgccaccag ccttcctgtg ggccccttag caatgtctta ggaaggaga tcaacatttt 600
caaattagat gtttcaactg tgctcctgtt ttgtcttgaa agtggcacca gaggtgcttc 660
tgcctgtgca gcgggtgctg ctggtaacag tggctgcttc tctctctctc tctctttttt 720
gggggctcat ttttgctgtt ttgattcccg ggcttaccag gtgagaagtg agggaggaag 780
aaggcagtgt cccttttgct agagctgaca gctttgttcg cgtgggcaga gccttccaca 840
gtgaatgtgt ctggacctca tgttgttgag gctgtcacag tcctgagtgt ggacttggca 900
ggtgcctgtt gaatctgagc tgcaggttcc ttatctgtca cacctgtgcc tcctcagagg 960
acagtttttt tgttgttgtg tttttttgtt tttttttttt ggtagatgca tgacttgtgt 1020
gtgatgagag aatggagaca gagtccctgg ctcctctact gtttaacaac atggctttct 1080
tattttgttt gaattgttaa ttcacagaat agcacaaact acaattaaaa ctaagcacaa 1140
agccattcta agtcattggg gaaacggggt gaacttcagg tggatgagga gacagaatag 1200
agtgatagga agcgtctggc agatactcct tttgccactg ctgtgtgatt agacaggccc 1260
agtgagccgc ggggcacatg ctggccgctc ctccctcaga aaaaggcagt ggcctaaatc 1320
ctttttaaat gacttggctc gatgctgtgg gggactggct gggctgctgc aggccgtgtg 1380
tctgtcagcc caaccttcac atctgtcacg ttctccacac ggggagaga cgcagtccgc 1440
ccaggtcccc gctttctttg gaggcagcag ctcccgcagg gctgaagtct ggcgtaagat 1500
gatggatttg attcgccctc ctccctgtca tagagctgca gggtggattg ttacagcttc 1560
gctggaaacc tctggaggtc atctcggctg ttcctgagaa ataaaaagcc tgtcatttc 1619

<210> 100
<211> 74
<212> PRT
<213> Homo sapiens

<400> 100
Cys Trp Tyr Cys Arg Arg Arg Asn Gly Tyr Arg Ala Leu Met Asp Lys
1   5   10   15
Ser Leu His Val Gly Thr Gln Cys Ala Leu Thr Arg Arg Cys Pro Gln
                20   25   30
Glu Gly Phe Asp His Arg Asp Ser Lys Val Ser Leu Gln Glu Lys Asn
            35   40   45
Cys Glu Pro Val Val Pro Asn Ala Pro Pro Ala Tyr Glu Lys Leu Ser
        50   55   60
Ala Glu Gln Ser Pro Pro Pro Tyr Ser Pro
65   70

<210> 101
<211> 1524
<212> DNA
<213> Homo sapiens

46

<400> 101
agcagacaga ggactctcat taaggaaggt gtcctgtgcc ctgaccctac aagatgccaa 60
gagaagatgc tcacttcatc tatggttacc ccaagaaggg gcacggccac tcttacacca 120
cggctgaaga ggccgctggg atcggcatcc tgacagtgat cctgggagtc ttactgctca 180
tcggctgttg gtattgtaga agacgaaatg gatacagagc cttgatggat aaaagtcttc 240
atgttggcac tcaatgtgcc ttaacaagaa gatgcccaca agaagggttt gatcatcggg 300
acagcaaagt gtctcttcaa gagaaaaact gtgaacctgt ggttcccaat gctccacctg 360
cttatgagaa actctctgca gaacagtcac caccacctta ttcaccttaa gagccagcga 420
gacacctgag acatgctgaa attatttctc tcacactttt gcttgaattt aatacagaca 480
tctaatgttc tcctttggaa tggtgtagga aaaatgcaag ccatctctaa taataagtca 540
gtgttaaaat tttagtaggt ccgctagcag tactaatcat gtgaggaaat gatgagaaat 600
attaaattgg gaaaactcca tcaataaatg ttgcaatgca tgatactatc tgtgccagag 660
gtaatgttag taaatccatg gtgttatttt ctgagagaca gaattcaagt gggtattctg 720
gggccatcca atttctcttt acttgaaatt tggctaataa caaactagtc aggttttcga 780
accttgaccg acatgaactg tacacagaat tgttccagta ctatggagtg ctcacaaagg 840
atactttac aggttaagac aaagggttga ctggcctatt tatctgatca agaacatgtc 900
agcaatgtct ctttgtgctc taaaattcta ttatactaca ataatatatt gtaaagatcc 960
tatagctctt ttttttgag atggagtttc gcttttgttg cccaggctgg agtgcaatgg 1020
cgcgatcttg gctcaccata acctccgcct cccaggttca agcaattctc ctgccttagc 1080
ctcctgagta gctgggatta caggcgtgcg ccactatgcc tgactaattt tgtagtttta 1140
gtagagacgg ggtttctcca tgttggtcag gctggtctca aactcctgac ctcaggtgat 1200
ctgcccgcct cagcctccca aagtgctgga attacaggcg tgagccacca cgcctggctg 1260
gatcctatat cttaggtaag acatataacg cagtctaatt acatttcact tcaaggctca 1320
atgctattct aactaatgac aagtattttc tactaaacca gaaattggta gaaggattta 1380
aataagtaaa agctactatg tactgcctta gtgctgatgc ctgtgtactg ccttaaatgt 1440
acctatggca atttagctct cttgggttcc caaatccctc tcacaagaat gtgcagaaga 1500
aatcataaag gatcagagat tctg 1524

<210> 102
<211> 43
<212> PRT
<213> Homo sapiens

<400> 102
Met Ala Ala Arg Ala Val Phe Leu Ala Leu Ser Ala Gln Leu Leu Gln
1   5   10   15
Ala Arg Leu Met Lys Glu Glu Ser Pro Val Val Ser Trp Arg Leu Glu
            20   25   30
Pro Glu Asp Gly Thr Ala Leu Cys Phe Ile Phe
        35   40

<210> 103
<211> 1004
<212> DNA
<213> Homo sapiens

<400> 103
cgccaatttta gggtctccgg tatctcccgc tgagctgctc tgttcccggc ttagaggacc 60
aggagaaggg ggagctggag gctggagcct gtaacaccgt ggctcgtctc actctggatg 120
gtggtggcaa cagagatggc agcgcagctg gagtgttagg agggcggcct gagcggtagg 180
agtgggggctg gagcagtaag atggcggcca gagcggtttt tctggcattg tctgcccagc 240
tgctccaagc caggctgatg aaggaggagt ccctgtggt gagctggagg ttggagcctg 300
aagacggcac agctctgtgc ttcatcttct gaggttgtgg cagccacggt gatggagacg 360
gcagctcaac aggagcaata ggaggagatg gagtttcact gtgtcagcca ggatggtctc 420
gatctcctga cctcgtgatc cgcccgcctt ggccttccaa agtgccgaga ttacagcgat 480
gtgcattttg taagcacttt ggagccacta tcaaatgctg tgaagagaaa tgtacccaga 540

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tgtatcatta tccttgtgct gcaggagccg gctcctttca ggatttcagt cacatcttcc 600
tgctttgtcc agaacacatt gaccaagctc ctgaaagatg taagtttact acgcatagac 660
ttttaaactt caaccaatgt atttactgaa aataacaaat gttgtaaatt ccctgagtgt 720
tattctactt gtattaaaag gtaataatac ataatcatta aaatctgagg gatcattgcc 780
agagattgtt ggggagggaa atgttatcaa cggtttcatt gaaattaaat ccaaaaagtt 840
atttcctcag aaaaatcaaa taaagtttgc atgttttta ttcttaaaac attttaaaaa 900
ccactgtaga atgatgtaaa tagggactgt gcagtatttc tgacatatac tataaaatta 960
ttaaaaagtc aatcagtatt caacatcttt tacactaaaa agcc          1004
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<210> 104
<211> 9
<212> PRT
<213> Homo sapiens

<400> 104
Trp Val Leu Thr Ala Ala His Cys Ile
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<210> 105
<211> 263
<212> PRT
<213> Homo sapiens

<400> 105
Pro Met Trp Phe Leu Val Leu Cys Leu Ala Leu Ser Leu Gly Gly Thr
 1   5   10   15
Gly Ala Ala Pro Pro Ile Gln Ser Arg Ile Val Gly Gly Trp Glu Cys
            20   25   30
Glu Gln His Ser Gln Pro Trp Gln Ala Ala Leu Tyr His Phe Ser Thr
        35   40   45
Phe Gln Cys Gly Gly Ile Leu Val His Arg Gln Trp Val Leu Thr Ala
        50   55   60
Ala His Cys Ile Ser Asp Asn Tyr Gln Leu Trp Leu Gly Arg His Asn
65   70   75   80
Leu Phe Asp Asp Glu Asn Thr Ala Gln Phe Val His Val Ser Glu Ser
            85   90   95
Phe Pro His Pro Gly Phe Asn Met Ser Leu Leu Glu Asn His Thr Arg
            100   105   110
Gln Ala Asp Glu Asp Tyr Ser His Asp Leu Met Leu Leu Arg Leu Thr
        115   120   125
Glu Pro Ala Asp Thr Ile Thr Asp Ala Val Lys Val Val Glu Leu Pro
    130   135   140
Thr Gln Glu Pro Glu Val Gly Ser Thr Cys Leu Ala Ser Gly Trp Gly
145   150   155   160
Ser Ile Glu Pro Glu Asn Phe Ser Phe Pro Asp Asp Leu Gln Cys Val
            165   170   175
Asp Leu Lys Ile Leu Pro Asn Asp Glu Cys Glu Lys Ala His Val Gln
            180   185   190
Lys Val Thr Asp Phe Met Leu Cys Val Gly His Leu Glu Gly Gly Lys
            195   200   205
Asp Thr Cys Val Gly Asp Ser Gly Gly Pro Leu Met Cys Asp Gly Val
    210   215   220
Leu Gln Gly Val Thr Ser Trp Gly Tyr Val Pro Cys Gly Thr Pro Asn
225   230   235   240
Lys Pro Ser Val Ala Val Arg Val Leu Ser Tyr Val Lys Trp Ile Glu
            245   250   255

48
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Asp Thr Ile Ala Glu Asn Ser
          260

<210> 106
<211> 270
<212> PRT
<213> Homo sapiens

<400> 106
Pro Met Ile Arg Thr Leu Leu Leu Ser Thr Leu Val Ala Gly Ala Leu
1   5   10   15
Ser Cys Gly Asp Pro Thr Tyr Pro Pro Tyr Val Thr Arg Val Val Gly
            20   25   30
Gly Glu Glu Ala Arg Pro Asn Ser Trp Pro Trp Gln Val Ser Leu Gln
        35   40   45
Tyr Ser Ser Asn Gly Lys Trp Tyr His Thr Cys Gly Gly Ser Leu Ile
    50   55   60
Ala Asn Ser Trp Val Leu Thr Ala Ala His Cys Ile Ser Ser Ser Arg
65   70   75   80
Thr Tyr Arg Val Gly Leu Gly Arg His Asn Leu Tyr Val Ala Glu Ser
                85   90   95
Gly Ser Leu Ala Val Ser Val Ser Lys Ile Val Val His Lys Asp Trp
            100   105   110
Asn Ser Asn Gln Ile Ser Lys Gly Asn Asp Ile Ala Leu Leu Lys Leu
        115   120   125
Ala Asn Pro Val Ser Leu Thr Asp Lys Ile Gln Leu Ala Cys Leu Pro
    130   135   140
Pro Ala Gly Thr Ile Leu Pro Asn Asn Tyr Pro Cys Tyr Val Thr Gly
145   150   155   160
Trp Gly Arg Leu Gln Thr Asn Gly Ala Val Pro Asp Val Leu Gln Gln
                165   170   175
Gly Arg Leu Leu Val Val Asp Tyr Ala Thr Cys Ser Ser Ser Ala Trp
            180   185   190
Trp Gly Ser Ser Val Lys Thr Ser Met Ile Cys Ala Gly Gly Asp Gly
            195   200   205
Val Ile Ser Ser Cys Asn Gly Asp Ser Gly Gly Pro Leu Asn Cys Gln
    210   215   220
Ala Ser Asp Gly Arg Trp Gln Val His Gly Ile Val Ser Phe Gly Ser
225   230   235   240
Arg Leu Gly Cys Asn Tyr Tyr His Lys Pro Ser Val Phe Thr Arg Val
                245   250   255
Ser Asn Tyr Ile Asp Trp Ile Asn Ser Val Ile Ala Asn Asn
            260   265   270

<210> 107
<211> 270
<212> PRT
<213> Homo sapiens

<400> 107
Pro Met Ile Arg Thr Leu Leu Leu Ser Thr Leu Val Ala Gly Ala Leu
1   5   10   15
Ser Cys Gly Val Ser Thr Tyr Ala Pro Asp Met Ser Arg Met Leu Gly
            20   25   30
Gly Glu Glu Ala Arg Pro Asn Ser Trp Pro Trp Gln Val Ser Leu Gln

49

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              35                  40                    45
Tyr Ser Ser Asn Gly Gln Trp Tyr His Thr Cys Gly Gly Ser Leu Ile
    50                  55                  60
Ala Asn Ser Trp Val Leu Thr Ala Ala His Cys Ile Ser Ser Ser Arg
65                  70                  75                  80
Ile Tyr Arg Val Met Leu Gly Gln His Asn Leu Tyr Val Ala Glu Ser
                85                  90                  95
Gly Ser Leu Ala Val Ser Val Ser Lys Ile Val Val His Lys Asp Trp
            100                 105                 110
Asn Ser Asn Gln Val Ser Lys Gly Asn Asp Ile Ala Leu Leu Lys Leu
            115                 120                 125
Ala Asn Pro Val Ser Leu Thr Asp Lys Ile Gln Leu Ala Cys Leu Pro
    130                 135                 140
Pro Ala Gly Thr Ile Leu Pro Asn Asn Tyr Pro Cys Tyr Val Thr Gly
145                 150                 155                 160
Trp Gly Arg Leu Gln Thr Asn Gly Ala Leu Pro Asp Asp Leu Lys Gln
                165                 170                 175
Gly Arg Leu Leu Val Val Asp Tyr Ala Thr Cys Ser Ser Ser Gly Trp
            180                 185                 190
Trp Gly Ser Thr Val Lys Thr Asn Met Ile Cys Ala Gly Gly Asp Gly
    195                 200                 205
Val Ile Cys Thr Cys Asn Gly Asp Ser Gly Gly Pro Leu Asn Cys Gln
    210                 215                 220
Ala Ser Asp Gly Arg Trp Glu Val His Gly Ile Gly Ser Leu Thr Ser
225                 230                 235                 240
Val Leu Gly Cys Asn Tyr Tyr Tyr Lys Pro Ser Ile Phe Thr Arg Val
                245                 250                 255
Ser Asn Tyr Asn Asp Trp Ile Asn Ser Val Ile Ala Asn Asn
            260                 265                 270
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<210> 108
<211> 9
<212> PRT
<213> Homo sapiens

<400> 108
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Asn Ile Tyr Asp Leu Phe Val Trp Met
 1               5
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<210> 109
<211> 10
<212> PRT
<213> Homo sapiens

<400> 109
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Tyr Asp Leu Phe Val Trp Met His Tyr Tyr
 1             5                 10
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<210> 110
<211> 9
<212> PRT
<213> Homo sapiens

<400> 110

Asp Leu Phe Val Trp Met His Tyr Tyr
 1   5

<210> 111
<211> 9
<212> PRT
<213> Homo sapiens

<400> 111
Asp Ala Leu Leu Gly Gly Ser Glu Ile
 1   5

<210> 112
<211> 10
<212> PRT
<213> Homo sapiens

<400> 112
Gly Ser Glu Ile Trp Arg Asp Ile Asp Phe
 1   5   10

<210> 113
<211> 9
<212> PRT
<213> Homo sapiens

<400> 113
Ser Glu Ile Trp Arg Asp Ile Asp Phe
 1   5

<210> 114
<211> 9
<212> PRT
<213> Homo sapiens

<400> 114
Glu Ile Trp Arg Asp Ile Asp Phe Ala
 1   5

<210> 115
<211> 10
<212> PRT
<213> Homo sapiens

<400> 115
Leu Gln Glu Val Tyr Pro Glu Ala Asn Ala
 1   5   10

<210> 116
<211> 10
<212> PRT

<213> Homosapiens

<400> 116
Glu Val Tyr Pro Glu Ala Asn Ala Pro Ile
1   5   10

<210> 117
<211> 9
<212> PRT
<213> Homosapiens

<400> 117
Val Tyr Pro Glu Ala Asn Ala Pro Ile
1   5

<210> 118
<211> 8
<212> PRT
<213> Homosapiens

<400> 118
Tyr Pro Glu Ala Asn Ala Pro Ile
1   5

<210> 119
<211> 10
<212> PRT
<213> Homosapiens

<400> 119
Tyr Pro Glu Ala Asn Ala Pro Ile Gly His
1   5   10

<210> 120
<211> 10
<212> PRT
<213> Homosapiens

<400> 120
Ala Pro Ile Gly His Asn Arg Glu Ser Tyr
1   5   10

<210> 121
<211> 9
<212> PRT
<213> Homosapiens

<400> 121
Pro Ile Gly His Asn Arg Glu Ser Tyr
1   5

<210> 122
<211> 10
<212> PRT
<213> Homosapiens

<400> 122
Pro Ile Gly His Asn Arg Glu Ser Tyr Met
1   5   10

<210> 123
<211> 10
<212> PRT
<213> Homosapiens

<400> 123
Ala Pro Ile Gly His Asn Arg Glu Ser Tyr
1   5   10

<210> 124
<211> 9
<212> PRT
<213> Homosapiens

<400> 124
Pro Ile Gly His Asn Arg Glu Ser Tyr
1   5

<210> 125
<211> 8
<212> PRT
<213> Homosapiens

<400> 125
Glu Ser Tyr Met Val Pro Phe Ile
1   5

<210> 126
<211> 10
<212> PRT
<213> Homosapiens

<400> 126
Glu Ser Tyr Met Val Pro Phe Ile Pro Leu
1   5   10

<210> 127
<211> 9
<212> PRT
<213> Homosapiens

<400> 127
Ser Tyr Met Val Pro Phe Ile Pro Leu

<210> 128
<211> 10
<212> PRT
<213> Homosapiens

<400> 128
Ser Tyr Met Val Pro Phe Ile Pro Leu Tyr
 1   5   10

<210> 129
<211> 9
<212> PRT
<213> Homosapiens

<400> 129
Tyr Met Val Pro Phe Ile Pro Leu Tyr
 1   5

<210> 130
<211> 9
<212> PRT
<213> Homosapiens

<400> 130
Met Val Pro Phe Ile Pro Leu Tyr Arg
 1   5

<210> 131
<211> 10
<212> PRT
<213> Homosapiens

<400> 131
Met Val Pro Phe Ile Pro Leu Tyr Arg Asn
 1   5   10

<210> 132
<211> 8
<212> PRT
<213> Homosapiens

<400> 132
Val Pro Phe Ile Pro Leu Tyr Arg
 1   5

<210> 133
<211> 8
<212> PRT
<213> Homosapiens

<400> 133
Ile Pro Leu Tyr Arg Asn Gly Asp
1   5

<210> 134
<211> 10
<212> PRT
<213> Homosapiens

<400> 134
Ile Pro Leu Tyr Arg Asn Gly Asp Phe Phe
1   5   10

<210> 135
<211> 9
<212> PRT
<213> Homosapiens

<400> 135
Pro Leu Tyr Arg Asn Gly Asp Phe Phe
1   5

<210> 136
<211> 10
<212> PRT
<213> Homosapiens

<400> 136
Pro Leu Tyr Arg Asn Gly Asp Phe Phe Ile
1   5   10

<210> 137
<211> 10
<212> PRT
<213> Homosapiens

<400> 137
Arg Asn Gly Asp Phe Phe Ile Ser Ser Lys
1   5   10

<210> 138
<211> 9
<212> PRT
<213> Homosapiens

<400> 138
Asn Gly Asp Phe Phe Ile Ser Ser Lys
1   5

<210> 139

<211> 9
<212> PRT
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1   5

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Gln Leu Leu Gln Ala Arg Leu Met Lys Glu
1   5   10

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<212> PRT
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Phe Leu Lys Asp His Arg Ile Ser Thr Phe Lys Asn Trp Pro Phe Leu
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<212> PRT
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<400> 604
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Glu Leu Thr Leu Gly Glu Phe Leu Lys Leu Asp Arg Glu Arg Ala Lys
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Asn

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<400> 605
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1   5   10

<210> 606

137

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<211> 18
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Asn Leu


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<211> 11
<212> PRT
<213> Homosapiens

<400> 607
Phe Leu Ala Leu Ser Ala Gln Leu Leu Gln Ala
 1               5                  10


<210> 608
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Arg Leu Met Lys Glu Glu Ser Pro Val Val
 1               5                  10


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<212> PRT
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Arg Leu Met Lys Glu Glu Ser Pro Val Val
            20                  25


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<212> PRT
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Arg Leu Glu Pro Glu Asp Gly Thr Ala Leu
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